The Builder.

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Architecture, Art, and Social Life in Roman Times.

MUCH new and unexpected light has been thrown on the architecture, the other art, and the social life of Italy, in Roman times, by the recent systematic explorations at Pompeii and at Ostia, as well as by discoveries in other parts of Italy, that the account given by M. Gaston Boissier, in a recent number of the *Revue des Deux Mondes*, possesses unusual interest. Personal knowledge of the scenes, of the explorers, or of the special studies which have been directed to the localities, enable us to endorse or to supplement what we are glad to cite from a long and able article on the subject.

It is now 130 years since, on the 1st of April, 1748, excavation was commenced at Pompeii. The main object of the operations was to enrich the noble museum, which, under different names of Borbonico, Reale, Nationale, and what not, has long formed the great art-treasury of Naples, and competes with the unrivalled beauty of the scenery in attracting visitors to that noisy but fascinating city. The digging was accordingly carried on at hap-hazard,—commenced wherever the indication of a building of importance might be found, or suspected, pursued as far as seemed likely to ensure the detection of any important fresco, or sculpture, or mosaic, and then dropped. Nor was this all, the objects found were deprived of half their value,—if not indeed entirely destroyed,—by being taken at once from their proper sites to the Museum. The buildings uncovered were thus devastated by a new barbarism, after their 2,000 years' slumber beneath the ashes of Vesuvius, and not only so, but the materials from new excavations were often thrown carelessly into the old ones. Thus, while Pompeii, even twenty years ago, was something unique, it yet bore as much testimony to the greedy barbarism of modern Neapolitans as it did to the skill, the taste, and the active and not altogether ignoble life of the citizens of that lovely sojourn in the year 78 of the Christian era.

With the appointment of the Chevalier Fiorelli, a gentleman, a scholar, and a man of taste, to the supreme direction of the *scavi* of Pompeii, in 1863, all this was happily changed. Signor Fiorelli had the courage and the perseverance to work for Italy, and for civilisation, rather than for effect, or for sensational discoveries. At the same time he introduced a method the prosecution of which has brought the ancient life, or, more properly speaking, the sudden death, of Pompeii before the senses in a more startling and impressive way than all else that has been written, or collected, or discovered, from the time of the Younger Pliny to our own days, put together. The dark, silent, drifting storm of volcanic ashes which destroyed Pompeii,—for it was not, as in the case of Herculaneum, a flow of lava which overwhelmed the city,—filled up houses and public buildings as well as streets and open places. The sentry who stood at his post, the infant in his cradle, the feeble, the gentle, and the infirm, who were unable to seek safety in flight, were snowed up, as it were, by that drifting mass. We have seen, of recent date, how it falls. Perfect blackness fills the air, except for the lurid under-glow from the volcano, which pulses and swells like a mighty furnace. Small pellets of black or grey ash fall rapidly and perpendicularly from the sky. If you try to shelter yourself by an umbrella, you become aware of a fall much softer than that of rain, with a peculiar muffled sound. Each of those little pellets, about the size of a pea, as we have observed them, breaks and spreads on falling, so that any motionless object is soon covered with a coat of fine grey, or red, or white ash. In the course of two or three hours as many inches will have fallen; and men have to be sent on to the flat roofs of the *palazzi* and larger houses to throw off the ash, as we throw off snow in these northern countries, lest in time it should crush the roof. By the continuance of this falling shower for an unusual period the whole of Pompeii was buried at one continuous operation. And all human or animal beings within it were enclosed in a tight-fitting mould, which by degrees solidified into the substance known as tufa, or something very closely approaching that volcanic rock.

Enclosed in this mould, which did not, like lava, at once shut in and preserve from all further action any moisture that was not at once disintegrated by its heat, the animal and vegetable elements of the buried subjects decomposed, while the bones, the armour, and the more solid parts remained. Thus when the explorers came on what had been a human being, there was generally a hollow containing bones. Signor Fiorelli adopted the method, wherever such a hollow was met with, of at once running it full of plaster of Paris. When the surrounding tufa was then removed, a plaster cast of the perished object met the eye. And very ghastly some of these objects are. We may mention as illustrative of the information thus gained that the dog, as represented on the well-known mosaic, "Cave Canem," is unlike any living dog, English or Italian. The general idea has been, that the dog of the mosaics or of the *fresci* was what we call conventionalised. Not so, however. Signor Fiorelli has reproduced the house-dog of the first century from his ashen cast. Such as he is shown on the mosaic, he actually was. The modification of the canine type by human care is thus most conspicuously brought into evidence. No such change, however, seems to have been produced in the human type.

Signor Fiorelli laid down for the guidance of his work a new and simple canon, the value of which will at once become apparent on reflection. The chief object of interest to be recovered by the excavators of Pompeii, he considered, was Pompeii itself! This admitted, it became evident that the old method of relic-snatching must be at once abandoned. The object of discovery was not a fresco, a bronze, or a cameo, but a Roman city as it formerly existed. To understand the full, active, busy life of Pompeii, it was not one or two great houses, or temples, that would suffice. No corner but might tell its tale. The houses of the poorer Pompeians, with their cheap utensils, and their vulgar, but perfectly intelligible, caricatures on the walls, were as valuable, from this point of view, as the larger abodes of the rich, adorned with marble, and enriched with fresco. Thus, Signor Fiorelli decided, before opening any new quarter of the buried city, to cleanse, to repair, and to protect that which had already been partly exposed to view. Quietly reviewing the scrambling work of his predecessors, he propped and restored the tottering walls, raised those which had fallen, protected from the weather and the visitors the *fresci* and mosaics, and completed the excavation of the opened parts of the town, removing the rubbish from the area. The task required all the more patience, because it did not afford the daily excitement on which, for upwards of a century, Pompeii had lived; or, at least, by which the works for its discovery were supported. The true value of this mode of proceeding it took a dozen years to prove. It is now apparent. The gaps have been filled up, the blocks removed. The explored part of Pompeii is now disembarrassed of the secular veil of tufa. It is brought out into the full light of the nineteenth century, not only with its forum and its theatres, but with its narrow alleys, its smallest houses, its humblest shops. The fullest and most correct idea of Italian life 1,800 years ago may be obtained by a ramble through the cleared streets of this wonderful city of the dead.

This patient, conscientious, masterly work has led, in some instances, to unexpected results. It is now for the first time that we learn that the Pompeii of 78, brought freshly before our eyes, was comparatively a modern town. In the year 63 it was almost entirely destroyed by an earthquake. With the usual busy activity native to the soil it was rebuilt in a few years, and it is the Pompeii of 63-79 with which, and with which alone, we have till very recently made acquaintance. But what is new to us is the discovery,—fully accordant as it is with the actual habits of the people of the neighbouring towns and cities,—that the new buildings were

reared on more ancient foundations. The brick, the stucco, or the marble of the houses reared in haste in the time of Nero, rest on solid basements which had resisted the earthquake of 63. Under the Pompeii of the first century Signor Fiorelli has found at least two cities of more ancient date. The oldest goes back as far as the sixth century before the Christian era, when a wall of enormous blocks was reared round an area extending from the Sarno to the sea, and the space was filled with homesteads more in the fashion of those mentioned as existing within the circuit of Babylon than resembling the dense piles of habitations in modern cities. The houses, of which the foundations yet exist, each consisted in a covered court, around which the apartments were grouped. Each habitation was in the centre of its own plot of land, the *hœredium*, which the family cultivated under the protection of the great common wall. This is a mode of life of which it is not easy to cite existing examples. We are familiar with the idea of its ancient prevalence from Herodotus and other old authors; but it is new to have it brought so near to us as Campania Felix.

Two hundred years later came the Samnites, a civilised, intelligent people, cultivated with the culture of Greece. They built a new town, of which some of the monuments and inscriptions have been recovered. Such are the temples of Venus and of Isis, and a portico in which Signor Fiorelli recognises a *hecatonstylon*. They also repaired the city walls, placing ashlar work of Nocera stone above the larger blocks of their predecessors. The Samnite town was finally reduced to obedience under Sylla, who sent thither three cohorts of veterans, with their families, and made it a Roman colony, under the name of his family, *Colonia Cornelia*. From that time, until its destruction, Pompeii remained, such as we have hitherto regarded it,—a town of pleasure, where the charms of scenery and of climate made of life one long bright holiday.

The regularity of the design of the town has now become apparent. The tracing the plan of a city among the old Italians was not left, as with ourselves, to the choice made by cattle of their paths. It was a religious affair. A horse and an ox harnessed together drew the plough which marked the *enceinte* of the city, the share being lifted where a gate or road was to be left. A straight line from north to south, known as the *cardo*, was drawn as the backbone of the plan, intersected by another main road, the *decumana*, from east to west. Other streets debouched on these two main lines. Thus Pompeii appears to have been divided into nine quarters, or, as the Romans term them, regions. Of these nine regions three are now entirely uncovered. Three are untouched, and but a faint knowledge has yet been attained of the remaining three.

With this reconstruction of the stratigraphy of Pompeii, Signor Fiorelli has combined the introduction of a new system of nomenclature. Hitherto houses have been usually named by the accident of the visit of some royal or otherwise important person about the time of their excavation,—as the house of the grand duke, that of the Russian prince, or the like. In other cases they have been named from some fresco, mosaic, or work of art which they contained,—as the house of the forum, of the *clausus*, or the like. Sometimes they have been named no one seems to know why or wherefore,—as the house of Pansa, for which the genius of Bulwer has supplied inmates and an owner. As to this very house, which is of large dimensions, Signor Fiorelli has had the good fortune to discover an inscription, which gives the name of its real owner. "To let," it runs, "for the calends of July, shops, with their terraces, cabinets, &c. Address, Primus, slave of Cneius Alleius Nigidius Maius." Thus, the house of the imaginary Pansa is the house of Nigidius. The inscriptions of a complimentary or gallant nature found on some of the walls are fresh utterances of the gay life led by the Pompeians of the Christian era. "Terentio feliciter!" "Good luck to Terence!" "Gemellus to Cæsernina, wife of L. Monisius, health!"—an *ave* left by friend or lover, eighteen centuries ago, on the walls, no doubt, of the husband of Cæsernina.

Among the discoveries lighted on, as it were, by accident in the course of works directed rather to lay open the whole area of the buried city than to pick out its most tempting morsels, three deserve especial mention. These are the fresco of Orpheus, the fuller's house, or *fullonica*, and the books of the banker Jucundus Of these, the first was found in the peristyle of a house remarkable in no other way; indeed, the interest attaching to the fresco itself, which covers about 2½ mètres of wall, has in no slight degree depended on the resemblance which it bears to a well-known fresco in the Christian Catacombs of Rome, in which the figure of Orpheus has undergone the same kind of transformation as that in virtue of which an ancient statue of Jupiter now receives the kisses of the orthodox under the borrowed name of St. Peter. Orpheus is represented seated. A light *chlamys* descends from his shoulders, and he strikes with a *plectrum* a seven-stringed cithara. At his feet lies a group of different animals,—a lion, a panther, a tiger, a boar, a stag, a hare. A little further, the rocks and trees bow to his song, and a brook stops in its course to listen to it. In the Christian fresco the wild animals are replaced by a couple of sheep; but the figure of Orpheus has been reproduced, without the smallest scruple, as that of the Good Shepherd. M. Boissier adds in a note that the more he studies the paintings of Pompeii the more he is struck with their resemblance to those of the Catacombs, and he thinks that enough attention has not been given to those personages of the colour of bistre, with ardent eyes, who are so frequently represented in both,—the genii of Paganism reappearing as the angels of Christianity.

The *fullonica*, or fuller's shop, which has been discovered in face of the house of the banker Jucundus, is by no means the first of those establishments brought to light at Pompeii. On one,—as will be remembered by those who possess the works of Sir William Gell, or almost any other illustrated book on Pompeii,—was found a *fresco* representing in detail all the operations of the trade. On the wall of the portico of the new *fullonica* was represented the festival of Minerva, the patron deity of the fullers. Dancing and sports, not unmixed with quarrels and with blows, are here depicted with much comic effect; and the freedom of some of the motives is of a thoroughly unrestrained nature. The working-room of the *fullonica* in question is in unusually good preservation. The work might have only just terminated. The basins in which the linen was placed are untouched, and the taps which admitted the water of the Sarno are in their places. In one corner is an urn full of that chalky mixture which had been prepared, on the eve of the eruption, for use on the following day. Close to this workshop is the apartment of the master, where no doubt he received his customers. It is ornamented with graceful paintings in *fresco*. One of them represents the toilette of Venus. The goddess is arranging her hair, and glancing at a mirror, while a Cupid near holds a box of perfumes. A class of work which we should have expected to find only in houses of the highest order is here shown to be carried out in the abodes of the industrious classes. The idea that we thus are led to form of the facility of touch common to so many artists, and of the demand for their skilled and graceful services, is enough to show to what an extent the taste for art was prevalent in the Roman world in the first century of our era.

The house of the banker L. Cæcilius Jucundus has a different title to our regard. The discovery of books, or rather calcined rolls, at Herculaneum, and the patient and skilful toil by which these ancient writings have been unsolved and read, are well known. It has been a matter both of surprise and of disappointment that Pompeii should have hitherto proved to be so entirely destitute of books. In the untouched portions of the city, it is true, libraries may at any moment be discovered; and there is every reason to hope, if such should be the case, that the task of decipherment will be far more easy than in the case of rolls of parchment or papyrus baked and charred by the heat of lava. The house of Jucundus is in a small street, and of modest exterior. On entering the house, however, the easy circumstances of the owner became apparent. The hall of reception is ornamented with mythological paintings: a great hunt is painted on the peristyle. Concealed in a corner of the front of the house was found, in a sort of niche over a door, a coffer containing that rare treasure, the books of a Roman banker.

The documents in question consisted of those tablets of thin plates of wood, covered with a thin coating of wax, on which the Romans were accustomed to write with an iron stylus, or pencil. That any of these objects should have remained undestroyed for eighteen centuries may, no doubt, be attributed wholly or in part to the conservative nature of the wax. When the coffer was first opened, and the contents exposed to the light, the utmost care was needed to prevent the tablets from crumbling at once into dust. The precautions taken are not specified. In the case of bronze vessels, plunging them immediately into boiling water was the method adopted by H. R. H. the late Count of Syracuse; but this, of course, would not answer for waxen tablets. The treasure was conveyed to Naples, and placed under the care of the learned director of the Museum, Signor Petra, in the rooms set apart for unrolling the Herculaneum MSS. An unusual degree of success attended the endeavours to read them.

The coffer contained 132 quittances signed by the banker Jucundus, 127 of which have been deciphered in whole or in part. Most of them related to sales by auction, being a sort of list or account of the result of each sale. A small number of documents were signed by the treasurer of the city, and show that the banker took charge of the revenues of the community. We learn hence the prices paid for pasture, the rent of a field which belonged to the corporation, and that of a fuller's shop, which was again underlet. An active, minute, industrious life is thus shown to have been that of the Roman banker, unlike that of his successor in our days in detail, but no less filling up its proper place in the great order of social life.

The houses of the petty traders have been found abundantly in Pompeii, and the love of art is visible in them all. Sometimes a single fresco; a bronze or marble statue; sometimes arabesques and interlaced flowers; everywhere something to relieve the architecture, and to suggest to the mind the charms of nature or the delights of life. But what is strange is, that there are no houses of the poor. Although Naples is the home of that special product of the climate, the lazzarone,—a man whose entire belongings consist at times in a shirt, a pair of drawers, a red cap, and a basket, in which, when not otherwise engaged, he sleeps in the sun,—yet the absence of any pauper class is a remarkable feature of great districts of the ancient kingdom of Naples. Along a vast stretch of the Adriatic coast, every labourer is said not only to keep his dog, but to ride to his work on his own donkey. And that there was a great deal of truth in this,—from Foggia to Bari, and from Bari to Brindisi,—twenty years ago, is certain. But, as yet, no very poor houses have been found at Pompeii. It is possible that the garrets and upper rooms of the larger houses, all of which have perished, were let for sleeping-rooms. It is possible that some unopened region of the city was the special home of the poor. All that is yet known on the subject is the existence of a poor class of tavern or drinking-shop. At the entrance of the town were those frequented by the peasants from the country. Small rooms were therein occupied as sleeping-apartments, and the visitors have at times scrawled their names and remarks upon the walls. There are found memorials of a Prætorian soldier on furlough, of a group of pantomimists, of an inhabitant of Pozzuoli who wished good luck to his native town, *Coloniæ Claudiæ Veronensi Puteolanæ feliciter*, and of *Vibius Restitutus*, who records that *hic solus dormivit, et Urbanam suam desiderabat*.

The inner life of this gay city or town, little by little, being recovered from its long buried walls, it is matter of congratulation to Signor Fiorelli that, while he has been chiefly occupied in repairing the mischief done by his predecessors, he has added so much to our definite knowledge of Pompeii. What may ensue when he carries before him the work into hitherto unopened regions of the town, it is impossible even to guess. But while Egypt and Assyria are yielding these long-buried secrets, we may well hope to receive, any day, news of startling interest from beneath the ashes of Pompeii.

The Albert Hall.—On Monday evening the members of the Royal Albert Hall Choral Society presented their conductor, Mr. Barnby, with a service of plate of the value of 200*l*., on the occasion of his marriage. The service consists of an epergne, a dessert-service, four candlesticks, and a tea and coffee service. Mr. Barnby, briefly returning thanks for the present, spoke of the kindly relations existing between himself and the choir, and of his desire to keep pace with the public appreciation of new or comparatively little-known classical compositions.

THE USE OF ARTIFICAL OBJECTS AS ORNAMENT.

In some remarks on this subject in a previous number (see page 1187, *ante*) we commented on the strange variety of objects to be found in artificial combination in the arabesques of the Cinquecento period in Italian ornament, and the nevertheless artistic spirit in which they were often combined more or less into one apparently connected design by the use of a conventional foliage ornament running through the whole and giving sequence and connexion. It was not always, however, that even this secondary relationship between the objects used as decoration was established, and it would be possible to quote instances from this otherwise great period of Italian art, in which an incongruous medley, absolutely indefensible upon any grounds of good taste or common sense, was indulged in under the name of ornament. An instance that may be mentioned before quitting this portion of the subject is one which, curiously enough, is given as a leading example in the first plate devoted to Italian ornament in Owen Jones's great work. This is a narrow upright panel, apparently the decoration of a pilaster. At the foot of the composition is an altar, and upon this is a trophy of arms. Above the trophy, and partly supported by it, rises a circular temple with an open colonnade of very attenuated columns, and a statue of a goddess on a pedestal in the centre. On the centre finial of the temple (the general shape of which seems suggested by the monument of Lysicrates) is perched a large white bird, apparently from its action meant for the typical pelican, though this may not be the intention, as this symbol is more a Mediæval than a Renaissance property. On each side of this bird stand two Cupids holding strings, from the ends of which insects dangle, and from the extreme edges of the temple cornice rise two objects like candlesticks with owls sitting upon them. In the next stage the central object is an old bearded head between horizontally-projecting rods like the arms of a semaphore, but festooned with drapery, while on the centre of each rod an infant's head is stuck. Above this arrangement come a couple of our old friends the winged griffins, each with claw gingerly stretched out as if in compliment to one another; over these come a couple of faun figures, terminating in long scrolls; next comes a bas-relief of a small figure in a painted oval frame, the shape of the *vesica piscis* in Mediæval art; then a casket, on the top of which two naked youths are posed in opposition to one another; next a circular patera, with a bas-relief of figures; and, finally, a crest on another oddly-shaped patera, with symbolical supporters. The artifice by which a certain sort of continuity is imparted to this extravagant collection of objects is certainly ingenious, but it is assuredly a very misapplied ingenuity.

The peculiarly conventional way in which ornament was regarded in Italian Renaissance architecture is oddly instanced in Albertolli's "Corso elementare di Ornamenti Architettonici." This book, which consists of progressive studies in freehand outline drawing, commences in a perfectly logical manner with simple studies of leaves and flowers in outline, or of curves and designs founded on leaves and flowers, but mostly more or less natural, and these proceed in increasing elaboration till near the end of the book, when we find we jump suddenly from these refined and really beautiful designs in free line to the ox-skull and garland. This is put at the close of the course as the most difficult and highest achievement, the culmination of all the previous studies. One can hardly conceive anything more absurd than this sudden return, after a progressive study of real ornament, to a conventionally accepted thing of no beauty and no meaning, to which this important place is given in a course of ornamental drawing, merely because it once had a symbolical or illustrative meaning to people of antiquity. Another work of Albertolli's, "Alcune Decorazione di nobili Sale," is of some interest in connexion with our subject, as it illustrates the employment of some of the furniture of Italian ornament, with a more direct attempt at special meaning than is generally found in such ornament. We have, for instance, panels representing "the fine arts," "science," "pastoral life," &c., consisting each of a collection of objects symbolical of the subject treated, grouped together not in a very artificial or artistic manner certainly, but with a certain definite interest, and in a manner reminding one somewhat of the treatment Grinling Gibbons gave to panels of a similar kind in English work; only that Gibbons's designs had generally more brilliancy and freedom of execution, and less decided meaning. In Albertolli's panel of the "Belle Arti" we find combined masks, brushes, crayon-holders, compasses, and pan-pipes: a curious jumble of the realistic and the typical, since pan-pipes, as representing music, could only be accepted as a typical object consecrated by its associations with Classic fable, whereas the porte-crayon in the design is completely real and practical. The "Pastorale" is symbolised by a sickle, rake, pruning-hook, flowers, a shepherd's pipe, and a shepherd's *bundle;* for this latter object (reminding one of "the Hon. Mr. Dowlass's luggage, all tied up in the Hon. Mr. Dowlass's pocket-handkerchief") seems to have been considered, both in Italian and French ornament, a necessary part of the properties of any rural design, and is perhaps about the very oddest thing to choose for an ornamental accessory that one could well come across. But if the reader wish to see to what point of extravagance the taste for artificial ornament can be carried by a designer of real ability, when once fairly indulged, let him turn over the powerfully-engraved designs in Piranesi's "Diverse Maniere d' adornare i cammini." This consists of a series of original designs for chimney-pieces, in which the author seems to have aimed at turning to the utmost account the suggestions derived from a long study of Roman architectural detail, and showing to how great a length the hints thence derived can carry an enthusiastic student of this school of design. One of the first objects we see is a face carved in relief in the middle of a winged shell, as a centre-piece to one of the designs; on either side of this, carved drinking-cups or drinking-horns, with the part to be grasped formed by horse and deer heads,—articles which even in their real form would be conventional conceits, and which are here carved at second-hand as *bas-relief* ornaments. In another the frieze over the fireplace opening has a plate and a garlanded ox-skull in the centre, then lamps of an antique flat-candlestick type, then cups connected with the rest of the design by a scroll of artificial foliage twined through the handles; the jambs of the fireplace are ornamented with women's heads and breasts, developing below into a long scroll or console reaching to the level of the plinth, and terminating there in a small dolphin's head. In the next design the jambs are formed each by a lyre, with strings consisting of the bead-and-reel ornament familiar to us in Greek and Roman cornice decoration, and the framework of the lyre is formed by a scroll which rises from a human helmeted head at the base, is first a floral wreath with spiral band, then develops into a reeded or fluted scroll, which twists round and ends in a horse's head. In another design we have sculptured coins of colossal size, hung by sculptured chains or strings; in another the phœnix sculptured in the middle of a shell, surrounded by winged serpents, the rest of the frieze being made up of a collection of bits of antique armour closely packed together as if rammed in by accident; in another a conglomeration of masks, wreaths, quivers, and arrows, ox-skulls, and winged angels. Strange to say, absurd as the catalogue must sound to every one, it is difficult to turn over the pages without becoming gradually inured to the absurdity and betrayed into admiring the author's ability, invention, and draughtsmanship, which were certainly remarkable, and it is surprising to find how soon one may, in such cases, become accustomed to a theory of design which at first sight seems so senseless, and arrive at a kind of admiration for the cleverness of the designer, and even sympathy with his ingenuity in devices, although in a style which our sounder critical judgment must entirely disapprove.

When the Renaissance style assumed in France the special characteristics peculiar to its development in that country, a form of decoration was evolved which, though as artificial as anything could possibly be in one sense, was free, in great measure, from the extravagant fancy of the Italian school, and far more logical and consistent in its forms and combinations. The ornament of the Louis XIII. period, though it introduces pretty frequently masks and ropes or ribbons, and the eternal festoon (which seems to meet us wherever we turn in post-Renaissance decoration) is still, in great measure, a purely abstract decoration, not very refined or very interesting; not referring to Nature in any shape or way; but also, it may be added, not in general abusing or misrepresenting her by grotesque and impossible combinations. In the Louis Quatorze period we come on the prevalence of these kind of fancies again; a skull and cross-bones figure as the centre of a design, and cloths tied in knots are draped on either side; terminal figures (female especially) abound, and masks are introduced in an unmeaning manner. For example, in one instance, figured by L. Adams in his "Décorations et Meubles Louis XIII. et XIV.," a half-length female figure on a terminal pedestal appears to lift the drapery with her hand, and beneath it is seen a grotesque mask affixed to the terminal, with what idea on the part of the designer, if any, it is impossible to imagine. Still, even in this and the Louis XV. period, a large proportion of the ornament is abstract, and quite legitimate in principle, though, it must be admitted, very dull and uninteresting in character. It may be noticed, by the way, that the use of an imitation vase as a terminal on a cornice, so characteristic of much Renaissance architecture, especially in our own country, seems to have received its chief impulse in the first instance from French work. In the Renaissance period, however, the "pot" is usually represented with something intended to convey the notion of a flame issuing from its mouth, as if its origin was from some idea either of a lamp or of a censer; the fact of the occasional substitution of a candlestick and candle in almost realistic shape, in French cabinet work, seems to point to the former idea as the real origin of this much-abused architectural accessory. Among curiosities in connexion with our subject it may be noticed that in the South Kensington Museum there is a French carved cabinet (date 1560), in which the main panel is filled with a military trophy, where a figure in Roman soldier's costume sits on or leans against a heap of arms behind, consisting of antique shields and spears combined with two cannon, of a make very different from any we have known in our time, but still obviously cannon: the barrels of the pieces are fluted in the same manner as the shaft of a column, and the breeches adorned with conventional foliage of a classical type. Some of the French fancies into which the decoration of this epoch developed are well illustrated in Queverdo's book of "Décorations Intérieures, Époque Louis XV.," consisting principally of panels and "*attributs*," as they are termed. In these we have such things as panels representing the seasons, or various passions or "attributes," just as we noticed in speaking of Albertolli's designs; we have "Printemps," for example, with the same typical accessories of the shepherd's hat, pipe, crook, and his inevitable bundle, and artificial flowers springing from a vase, and Venus on the top of the composition reclining on clouds, from the underside of which a number of little darts are directed vertically downward; but whether these represent the darts of love, or whether they are only a conventional representation of the raindrops of the spring shower, does not clearly appear. The designer, however, seems to have love in his eye in a general way; for in the panel representing "L'Hiver" we find the main incidentis a canopied bed, on which a very amorous-looking couple are about to recline. Among the curiosities of the book is a page of wall-decoration, intended for a "Kiosque à la Turque," with the centre panel occupied by a knot of scimitars, bows and arrows, and two long Turkish pipes crossed: the only instance we remember to have noticed of tobacco-pipes introduced as decoration. Pfnor's "Ornement Usuelle," of the time of Louis XVI., gives good specimens of the same type of ornament,—among others, some panels illustrating the elements, with some fancy, though with an employment of attributes the suitability of which might be questioned.

With these two last-named works may be compared a curious and rather scarce work containing illustrations of the development by the German mind of the same artificial type of ornament derived from the Italian Renaissance in the first instance, but coloured, in a much more marked degree than in the case of French ornament, with the artistic idiosyncracy of the national mind. This is the work by Baldus entitled "Recueil d'Ornements," and consisting of ornamental designs for panels and other pieces of decoration. Like the Italian decoration, this German work has occupied the genius of some of the greatest painters of the time and country, and the names of Holbein and Lucas van Leyden are attached to some of the

most characteristic of the designs. The difference between this German ornament and that of the corresponding school in Italy is remarkable, and very significant of the distinction between the artistic feeling of the two nations when considered collectively. In force of expression and breadth of style the German work is far superior, far more masculine and bold in character. Instead of the thin delicate scrolls of the artificial foliage of the Italian designers, we have designs which, with almost the same freedom of line, fill up the ground almost entirely, in close thick involved folds, sometimes heavy, but at all times rich in effect. The use of artificial objects, or still more the artificial and monstrous combination of things having no relation to one another, is carried out with a wild and almost barbaric fancy, which throws the Italian oddities into the shade. In a panel by Aldegräver, for instance (who lived 1502-1558), we find artificial foliage not, as in the Italian designs, growing out of a vase, or the suggestion of a vase (which has, at least, reference to reality), but growing out of the neck of a headless torso, half clad in armour; above, on the stem of the foliage, hangs the skull of a deer. In another design by the same hand the foliage grows from between the thighs of a satyr, whose hoofed legs, bent each way, form the base of the design; the torso is nowhere apparent, but the satyr's head is hung on the stem of the foliage a little higher up, about where it would come if the whole body were introduced. This "motive" of the satyr's legs with the foliage ornament springing from them is apparently a favourite one; the ostentatious grossness of these designs in certain particulars is extraordinary, and could only have proceeded from, or been accepted by, a society very coarse in its tastes. Some of the best and also some of the most eccentric in the book are by Hans Beham, of whose works a very interesting collection was exhibited at the Burlington Club some little time since. There is one representing a tragic mask, with great masses of foliage issuing from and encircling it, which is grand in its way, and shows that it is possible with this class of ornament to produce something much more impressive and more full of meaning than was attained in the Italian arabesques. One of the most singular of Beham's is that in which a cock crowing is represented in the upper part of the design, with a near approach to realism, while below is shown the sculptured effigy of the same bird in the same attitude in bas-relief on a concave tablet, the difference between the representation of the real bird and of the sculptured one being carefully brought out in the drawing: the ground is filled up with artificial foliage, but the space between the two birds is partly filled up by the body or breastplate of a suit of armour, as if hung on the stem of the foliage. A wilder design than any bears the name of Lucas van Leyden, in which are introduced figures with the head and breasts of a woman, but with a long curved neck like a swan's, and with goose-wings, cloven-hoofed feet, tails that expand into scrolls of foliage, and a torso which developes in front into a great flap of artificial scroll-work, looking as if cut off from the belly of the figure and left to hang loose in front like an apron. The extreme of monstrosity seems to be reached in such a design as this, which, clever as the drawing is, produces only a feeling of disgust. One other thing in the collection that may be mentioned is a strauge design for a cup, attributed to Holbein, the stem or rather pedestal of which is formed by three satyrs' legs (the hoofs forming the points of a triangle) and three satyrs' heads with long swan-necks, while between the legs and heads comes a moulding, where the bodies should be if the figures were carried out. These coarse and extravagant fancies are very interesting as illustrative of the taste of the day, but it is certain they leave an unpleasant and repelling effect on the mind.

The employment of representations of architecture as decoration is very frequent in German design, and is the resource generally of an art of comparatively naïve and childlike character, which German Mediæval and Early Renaissance art essentially is. In the choir-screen of Hildesheim we see a good example in the decoration of the spandrels between the arches, with castles, towers, and other buildings in low relief, which form a kind of symbolical accessory to the statues of saints which constitute the salient portion of the design. In the collection of ivories and reproductions of ivories at South Kensington, this use of architecture in a rude semi-symbolical form is constantly to be observed; but it may, perhaps, be questioned whether some of this comes properly under the head of decoration, and whether it is not rather to be regarded as,—in intention, at all events,—pictorial rather than decorative. The use of architectural features in Mediæval stained-glass design, and in its modern imitations, is a marked instance of the artificial employment of structural architectural details as decoration; it has been often done, often called in question, defended and condemned; and, without putting too fine a point upon the matter, we must say that we think the condemnation is right. We may observe, also, that the best stained-glass designers among us are giving practical adherence to this view, and are substituting in most cases abstract or natural ornamental detail for canopies and arches.

It is hardly necessary to say that in Oriental art in general we find little or no use of artificial objects in anything like the manner which Roman and Renaissance ornament has rendered us familiar with. Where the Japanese artists introduce dragons and certain impossible birds, they are invariably symbolical, and represent something in which the designer believes either as existing or as typical of some important idea, religious or philosophical. Beyond this the ornament of the Japanese artist is almost purely abstract, though suggested for the most part by reminiscences of floral and vegetable forms, highly conventionalised. The actual introduction of real animals into the design is always pictorial, and carried out with the utmost realism possible to the artist, which in many cases reaches a perfection hardly attained in any other work of any nation. A great deal of the Chinese ornament, and all the best of it, is also abstract; but there is also, as we all know, a very frequent use of representations of bridges, kiosks, pagodas, and other native architecture familiar to the artists. In regard to these, however, there is the same question as in regard to the architecture on the German ivory carvings, whether it is not really to be regarded as a pictorial effort, as far as the intent and ability of the designers could make it so, rather than as subsidiary decoration. It is worth notice that in the elaborate carving of a wooden miniature-frame in Admiral Keppel's collection (at present at the South Kensington Museum) there occurs prominently the amorous symbol, so well known in European decoration, of a heart pierced by an arrow. It would be interesting to know whether this detail of the ornament is of Chinese origin as well as workmanship, or whether it was introduced to suit the taste of a European customer.

Although, as has been observed, there is little of artificial ornament in Japanese work, it is curious that some of the *old* bronze Japanese vases, of which there are several specimens at Kensington, exhibit a greater affinity with classic work in their style and detail than we are accustomed to associate with anything Oriental; they exhibit a slight and not very prominent but still unmistakable use of artificial objects, such as cords and masks, as ornament. In the same inexhaustible collection may be found two large stoneware jars, professedly imitation of old Satsuma ware, the surfaces of which are entirely modelled in imitation of basket work, being then ultimately decorated with paintings of realistic flowers in colour, put on over the basket-work modelling, and with no reference to its design. The whole result is curious and unusual, but can hardly be said to be in very good taste.

The use of grotesque figures in Indian ornament was referred to at the commencement of these remarks in our last number. These grotesques are as artificial and nearly as wild in character as those of the German renaissance decorators, but with this difference, that they are symbolical (or perhaps are regarded as real) representations of various deities, and consequently have an explicit meaning which the grotesques of Aldegräver and Van Leyden are quite destitute of. Apart from these, there is little in Indian ornament that is artificial in our present sense. We may, however, recal the notable instance of the Sanchi Tope fence, carved in stone in imitation of the wooden railings previously used, and ornamented at the intersection of the bars with ornaments suggested by the nail-heads forming the original fastenings. There is another incident in Indian ornament, of occasional occurrence, which has not been much noted, and which is rather significant in its bearing on the possible relations between Asiatic and European ornamental art, and on the genesis of ornament generally. In a splendid specimen of worked Indian ornament, shown in No. 6 of the Indian plates in Owen Jones's book, the greater part of the design, which is of the most elaborate and flowing character of very conventionalised foliage, emanates from a representation of a vase in the centre, nearly Classic in outline, but enriched on the whole surface with very minute diaper ornament, in two shades, in a manner quite different from anything in Classic work; still, the Classic type of thing is there, though so covered with rich detail that it does not stand out very prominently; and at first one is inclined to think it a too exceptional incident in Indian design to be suitable for a book of typical standards of ornament. But in the architectural room at Kensington are two casts of columns from a temple near Delhi, on the richly-worked faces of which we discern again this feature; the vase from which the ornament springs being again much less prominent than in Renaissance ornament, but still an integral part of the design. In this Indian example it may be observed that the vase is not treated as a bas-relief on the surface of the ground, but rather as an object carved in the round, or nearly so, but of which only a portion is seen, the rest rounding off into the background, and being hidden behind the other freer portions of the design. It is remarkable in how many often unexpected places we meet this idea of the vase or basket, or other receptacle, from which the foliage ornament is made to spring. It would seem to be an idea almost inherently connected with ornamental design.

Mediæval ornament is more free from the introduction of incongruous artificial objects than perhaps any other school in existence, unless it be the Saracenic, the most abstract of all. The only sense in which it can be said that Mediæval ornament used artificial objects (unless in most rare and exceptional instances), was in the use of what were called the "Instruments of the Passion," which were symbolical, though representations of known objects, and in the use of architectural forms of constructive design in miniature, as the decoration of woodwork and in stained-glass windows. It is only in the case of the windows that this use of architectural detail becomes (as already observed) clearly unsuitable; in the case of rood-screens and other such objects, in which arches and buttresses are used, the fact is that the whole thing is a miniature architecture complete in itself; not an application of architectural forms as decoration.

The post-Gothic period in England followed mainly the lead of Italy and France in regard to decoration, with, on the whole, more soberness and logic than either, so far as ornament is concerned. The vases and others of the commoner objects of Italian decoration are as frequent in English work, but the extravagances of much of the Italian ornamental design are hardly to be found to the same extent in English design. One of the places where English taste appears to least advantage in regard to these matters is Westminster Abbey, where the monuments certainly show an extraordinary museum of accessory objects; but it must in justice be remembered that these are mostly introduced as symbolical, and as having some reference to the life and doings of the subject of the monument, and not from an idea that they are ornamental *per se*, or at least not from that idea only. English Renaissance architecture made much of the vase or "pot" terminal for exterior work, more perhaps than anywhere else, and later on the stone ball seemed to be regarded as the happiest of finishes for a gable or a gate-post. The festoon of flowers tied up in a knot or ribbon was also looked upon with great favour, and we have now witnessed the revival of this very unmeaning and stale piece of decoration, which may be traced back to the habit of decorating animals for sacrifice with garlands in times of Pagan antiquity, but which has no meaning at all for us now. Even ribbons have come in again, and are carefully cut in brickwork along with the sausage-looking festoons, and offered up to an admiring public as architectural decoration.

The classic details which the modern French and German architects work up are mainly highly respectable and well-worn abstract features, scrolls, keystones, &c.; only one may note that the eternal festoon seems to come in everywhere. The most exuberant and really often ridiculous use of the festoon or garland

occurs, and that frequently, in French monumental designs, such as are illustrated as choice examples, in Daly's "Architecture Funéraire." In these designs for tombs and memorials, great podgy-looking wreaths, sculptured in imitation of *immortelle* wreaths, but of Brobdingnagian proportions, are laboriously carved in stone or marble as if hung over the corner of the tombstone. The taste displayed in this way is altogether very bad, more conspicuously so on the part of people who make so much pretension to be the leaders and arbiters of taste * among modern Europeans. Other and more symbolic funeral ornaments are sometimes rather happily introduced in French designs of this class, and some which look rather odd though not unmeaning, such as a large globe duly marked with "countries" and meridians, on the top of a stele over the grave of some one who had travelled over great part of the original article; or a hemisphere globe in *bas-relief*, with a square and compasses, over the tomb of a mathematician and geometrician. These, however, are all symbolical; it may be admitted at the same time that they are not very ornamental. French taste in painted and furniture decoration is far more open to criticism in its use of inapplicable artificial objects and devices. A peculiarly flagrant instance which we recall is that of a timepiece fixed in the centre of the upper portion of a large mirror over a fireplace, with two narrow bars carved as chains descending obliquely from the two upper angles of the mirror-frame to the timepiece, the object being to convey the idea that the latter was suspended in mid-air in the centre of an open space. It would be difficult to realise or imagine anything worse in taste than this. The decorations of the French Opera-house show, on the other hand, some original and very able treatment of artificial symbolical ornament; the harp form being introduced, for instance, into the capitals in one part of the building in such a manner as to convey the idea or suggestion of a harp with its associations, while the object is kept quite as a subordinate item of architectural detail.

Looking through some of the examples of the manner in which artificial objects have at different times been made into decoration, what conclusion are we led to in regard to the real value and suitability of such decoration? On the whole, we must come to the conclusion that those critics are in the right who place such decoration as inferior to that which is based upon nature either physically or metaphysically; that is to say, either on the geometrical and quantitative relations, or on the actual forms of nature. To render any artificial objects at all satisfactory as ornament, they must be used where they have a meaning, and there only; and even then they will not rise to the rank of ornament unless they are in themselves beautiful and symmetrical in line and form; otherwise they are merely symbols, not ornaments. Under this latter head we should class the Roman ornament of the ox-skull, so often referred to in the course of our remarks, which no one would, we believe, ever have thought an ornamental addition to a building except for ceremonial reasons in ancient architecture, and from habit and association in modern architecture. To the friezes where these were used a certain grace was imparted by the introduction of garlands sculptured festoonwise, and which derived their charm, so far as it was a charm, from nature, simply because the curve in which they were hung was imitated from that due to natural forces, and almost all forms generated in that manner are pleasing to the eye; but the charm arises from the form of the curve and not from the materials of which the festoon is composed: it is exactly what gives the same charm to the lines of a suspension bridge. This is the only value the festoon ornament, so constantly repeated on the fronts of our houses, really has; the tying up of sculptured flowers and fruit in that artificial manner is really an absolute loss of beauty, as it destroys what is the true source of beauty in natural growths, the life and up-springing expression of all the parts from the root and the central stem. Yet not only is this ornament repeated so profusely in the form in which at least it is in accordance with nature as far as it goes, but in both English and French decoration the festoon is designed, with a taste which can only be called barbarous, on the horizontal surfaces of ceilings, so that the one charm of the festoon form is destroyed by the absurdity of a thing hanging *horizontally* in a curve, such as is really the expression and the result of gravitation acting vertically. Indeed, to call it "barbarous" is unfair to the barbarians, for no unsophisticated savage ornament contains so absurd a feature. It is, indeed, a curious fact in connexion with the subject we have been speaking of, that the use of these artificial forms and combinations, though unquestionably not in the highest artistic taste, seems to be nearly always an accompaniment of the greatest civilisation, so far as we regard civilisation as meaning the greatest refinement of manners and of luxurious living. It is the decoration of a life which is far removed from nature, and does not wish to be troubled with nature, or with anything beyond a conventional glitter and prettiness.

On the other hand, there is no doubt that by a judicious addition of objects, the symbolic meaning of which is generally understood and sympathised with, an additional interest may be created in ornamental design without the exclusion of the highest abstract attributes of beauty in decoration. To do this well, however, is a matter for very refined taste and very careful treatment, which one feels obliged to admit is not often bestowed on work of this kind. Those who introduce artificial and symbolical objects into decoration too often do so merely in a save-trouble spirit; they must put *something*, and have no cue or motive to give the start to their fancy, and so they get hold of an object of which it can at once be said, "this means so-and-so," and is, therefore, appropriate to the uses of this particular building or piece of furniture; or it was thought to mean this once, and therefore may be used in the same sense now. Thus the labour of thought and of design is saved, and an ostensibly appropriate ornament is manufactured as easily as that suggested by Tennyson for the tombstone of the "plump head-waiter at the Cock," which may stand as a type of this class of decorative design:—

> "And when Death calls, and thou shalt cease
> To pace the gritted floor,
> And, laying down an unctuous lease
> Of life, shalt earn no more;
> No carved cross-bones, the types of death,
> Shall show thee pass'd to Heaven,
> But carved cross-pipes, and underneath
> A pint-pot, neatly graven."

* A pretence, however, which the recent Exhibition has done much to dissipate and break down, as our neighbours themselves, or the best critics among them, have admitted.

EUROPEAN POTTERY AT THE FRENCH EXHIBITION.

However adequately the various other industries and branches of art may be shown in the Paris Exhibition, none could well be more fully illustrated than is the present state of the art-industry of the potter, as developed in different countries and in different directions of application. With the exception of Germany, no European country that has gained a name in art pottery is unrepresented, and though German manufacturers and artists have themselves withheld from contributing, the traditions of Germany are seen in the works from the fabriques of other countries which equally with those of the Germany of to-day reproduce or continue the more renowned older German styles. Countries, too, which have no traditional reputation for art pottery, have sent examples of what they are now making, and though they of necessity stand at a disadvantage in comparison with countries which have for long fostered the art, there are many hopeful signs of progress. Among these there are many instances of early and modern classical styles reproduced with strict fidelity, and besides those cases where fidelity is itself the chief merit, there are some few where there is shown originality of treatment in the adaptation of any style that has commended itself as a type model. This collection from so many countries, besides its interest to professional and amateur artists, has a special interest to those who possess a knowledge of the process and difficulties of production, as it illustrates the amenability of the natural products of different countries to the potter's and artist's wants, though the value of this is somewhat lessened by the fact that some countries obtain their material from other countries, as, for example, English clay is largely exported to Spain and Holland. All the various directions in which pottery is applied, both in common use and for decorative purposes, are illustrated with apparently no exception, for whatever common use may be noted as not shown, either some annexe or unexpected building in the grounds is afterwards found to contain examples. No such cosmopolitan idea of the present development of pottery could be gained as by an inspection of the collection now in the Exhibition.

The present remarks are confined to European pottery, and, as far as possible, to progress made since the Exhibition of 1862. The collections from Mexico, India, China, and Japan would demand a separate notice; and of British colonies there is nothing to say, for although they are largely represented in the Exhibition, none of them show any pottery.

With the enamels on porcelain are associated a few on metals, and, as the process of production is so analogous, they can hardly be excluded from a notice of European pottery, for, though they do not strictly come under the head of pottery, the artists who exhibit have elected to show in this section rather than in others which were open for their choice. In marked contrast to former exhibitions there is evidence that the idea uppermost in the minds of producers has been to give decorative pottery a character likely to harmonise with the deep-toned decoration of rooms now so much appreciated, instead of, as formerly, making pieces which from their bright colouring at once arrest attention to themselves.

Looking at the exhibition of pottery collectively, it is at once apparent that France and England are so far in advance of other countries that any idea of rivalry with them is quite out of the question. Between France and England themselves, however, there is the keenest competition. Within the last few years England, which has always largely imported from France, has also exported pottery to France, so that from the commercial point of view the English and French markets are almost one. In considering the vast collection of productions brought together from the two countries, it is astonishing, when realised, to think of the large amount of thought and energy that is devoted to pottery. The different conditions under which the work is produced in the two countries is brought very forcibly into prominence. The English firms to whom progress in art pottery is due are but some half-dozen, and these are all old-established and enjoying now a European reputation. The output of the least considerable of these amounts in value to many thousands a year. In England it is the firm that decides what line of art shall be pursued, and it secures the services of artists that are capable of carrying out its wants. Not a few of these artists are French. In France everything is very different. Firms are numerous; those showing at the Exhibition are some ten times as many as the English. The output of each *fabrique* is small, and very few make their own pottery. The firms are mostly artists who themselves decorate the wares they sell, and require but little paid assistance.

While in England each of the great firms has a completely distinctive style of its own, in France a large proportion follow Sèvres, or are content to imitate each other's styles.

Owing partly to the influence of the State-supported manufactory of Sèvres, which, from its organisation, is constantly seeking not only new styles of art but new processes of manufacture, and partly to the multiplicity of independent workers, this art-industry in France is still in advance of that of England in all important particulars, though in domestic pottery England has unmistakably maintained its supremacy. For the first time at an international exhibition a new element comes into competition, as the works of amateurs and of schools of art are shown side by side with those of commercial houses. It is becoming difficult in England to define the line that separates amateurs from professionals in the matter of pottery decoration; but in this case, where amateurs' work is admitted for its merit's sake, that need not be a trouble. Most of the amateurs are ladies, and they are principally French, English, and Austrian.

In the French court, Madame C. Moreau, a daughter of the well-known Dr. Nélaton, exhibits twenty-two specimens of painting on vases and plaques. All are characterised by broad treatment and a most happy blending of rich and subdued tones. They have an individuality of their own which marks them off from everything else. As a specimen of delicate painting *en grisaille* it is difficult to imagine anything more perfect than the Aphrodite of Madame Bellion, painted after Cabanal.

A very interesting exhibit is that of the

"Atelier d'Application d'École des Beaux Arts de Limoges." It has been originated since the war by M. Dubouché. Free teaching and free material are provided at M. Dubouché's expense, and there is a museum, with models of choice workmanship from different countries. The pupils originate their own designs, and carry them out themselves. The money that arises from the sale of the objects produced is thrown into a general fund, from which prizes are distributed. The system thus fosters excellence, and does not give encouragement to mediocrity.

Among the objects sent by the Austrian Government are a few pieces of pottery and enamel, executed by the professors and students at the École des Arts Industrielles of Vienna. This educational establishment, founded in 1864, is on a similar basis to that at South Kensington, and receives the highest possible patronage. Standing as these pieces do among other works, there is nothing in them, however, to attract particular attention, except from the circumstances under which they are produced. The English amateur work is almost entirely shown by Howell & James, and English people are already familiar with it.

The scale on which pottery is now used for architectural decoration is one of the first features that impresses itself at the Exhibition. It never has been employed in such grand dimensions in Europe since the days of the Moors in Spain, of della Robbia in Italy, and the Middle Ages in Germany. The colour effects of the tile decorations on the front of the building itself have been unfavourably criticised, but due allowance must be made for the colouring of their surroudings, the slate colour of the iron work, the blue of the glass, and the many flags, shields, and "trophies" around them. They form panels on flat columns, on which a pattern in high relief of conventionalised flowers is at intervals repeated. On the external wall of one of the pavilions devoted to the beaux arts are two examples of mural decoration. One is by Deck, of Paris, the other by Boulanger, of Cloisy-le-roi. Each is within the frame of an arch, and forms a picture with sea, sky, and landscape,—that of Deck composed of over 1,000 tiles, 10 in. square, and representing a rocky landscape, somewhat after the style of N. Poussin.

Boulanger's is of equally grand scale, though different in tone of colour. Both have naturally been the subject of much comment, and Deck's production is generally more admired. Doulton and Minton also show specimens of mural decoration. The reputation of Minton's name draws the attention of visitors to the large majolica fountain in the gardens, but it is difficult to surmise on what grounds this can be supposed to be any advance on the previous works this firm has produced. On the Trocadéro the Pavillon de l'Algérie shows, around the entrance, tiles by Parvillée, in turquoise, green and yellow, and there are many other buildings with decorations of similar character.

In the French Court, Collinet shows, in a kind of temple formed at the intersection of two avenues, several specimens of architectural pottery, among them some very fine examples in relief in Persian style. One of these, intended for a bath-room, with walls and fittings complete, *en suite*, is well worth attention. Round the temple are columns in blue and green, and several framed specimens of wall *carreaux*.

In the Spanish Court are several specimens of interlaced tiles in Hispano-Moresque style. Other tiles, encaustic and painted, are manufactured at Seville, purely Spanish in style, and their general character is good.

The objects exhibited by the Government Manufactory of Sèvres are shown in the main hall, which faces the Trocadéro, around a sort of pavilion, an illustration of which was given in the *Builder*, June 15th, erected in three sections, with pillars, cornice, and recesses for the display of Beauvais and Gobelins tapestry. Some of the vases are placed on pedestals, and a large number are on two semi-circular stands which terminate the pavilion at each end, while the smaller objects are in glazed cases. The great gain to a vase from being placed by itself instead of being crowded up by others could not be better illustrated than it is here where the effect of those isolated on pedestals can be contrasted with those placed together on stands, but the selection of those to be isolated seems to have been made on some other principle than that of choosing those of highest merit.

Before speaking of particular pieces, there are some few points that may be referred to generally with respect to the Sèvres productions. The most striking is the remarkable increase in the number of objects of large size. The large blue vase that now surmounts the group at the western end of the Pavilion is 10 ft. 6 in. high. It was *cast* in three pieces,—foot, body, and neck separately; that is, the paste entered the moulds by the aid of M. Régnault's process of exhausting and rarefying the air. It gives at first sight the idea that it is of enamelled faïence, but it is not. It is porcelain, and is the largest piece of any kind in that material that has been made in Europe. Too little is known of Chinese productions to say that it is the largest ever produced.

The increase in the number of colours and tones of colour is remarkable, and bears witness to the activity of research in the Chemical Laboratory attached to the establishment. Sèvres does not, however, stand alone in this respect, for other *fabriques*, notably the English, to which reference will be presently made, also show very marked progress in this direction.

There are two new processes of quite recent invention at Sèvres which place in the hands of artists a power of manipulation they had not before. One of them, of which there are several examples, was a process first tried experimentally ten years ago, and which was so successful that it has since been somewhat extensively employed.

The late M. Fr. Richard ascertained that a great number of enamel colours would bear exposure to a temperature as high as 600° C., which is one-third that of the *grand feu*. It is now technically known as the *demi-grand-feu*. This temperature is just high enough to soften the glaze, and thus enables new glaze applied to fuse with the edges of the old, and unite in an even surface without showing any trace of join. The advantages gained by it are, first that the colours and glaze unite and exactly produce all that softness so much admired in *pâte tendre*, that even experts have a difficulty in distinguishing the difference by sight alone. Secondly, that a vase which has been damaged in the firing can be repaired, a good example of which is seen in the "kingfisher" vase, to be presently mentioned.

Another new process is that for gilding with various tints and degrees of transparency, so that the colour underneath may show through. The process is this: the body of the vase is coloured with oxide of cobalt, which in the *grand feu* firing comes out *gros bleu*. The design to be gilded is then traced in chloride of gold, and *demi-grand-feu* firing brings about a chemical decomposition which makes the surface a suitable one for gilding. Its colour then is a rich reddish brown, which is either left, or on this is tinted the colour which it is wished to have showing through. The ordinary gilding is then put on either so thin as to be transparent, or the effect may be produced by partly removing it. It is then fired at a temperature of about 200 degrees C. It is a singular fact that no other ground known permits of transparent gilding to the same degree. In addition to the effects of light and shadow, the colour of the golds is modified by admixture with aluminium or other metal. The invention, due to M. Réjoux, gives an effect difficult to describe, but recalling objects inlaid with gold and fine tortoise-shell.

The value and artistic effect of most of the larger vases are greatly enhanced by the use of metal mountings. Within the last few years a special staff of artists has been attached to the manufactory exclusively to design and produce this metal work. So great an amount of well-directed skill is given to it that it is artistically no less remarkable than the more renowned porcelain itself.

It is often objected that Sèvres has an undue advantage over other *fabriques* from the subvention by which it is, to a considerable extent, maintained. This subvention may, perhaps, and no doubt does, very materially encourage the development of art-pottery in a way that private enterprise could hardly follow. The conditions under which a private *fabrique* can continue its existence in competition with others demand that the money value of the time devoted to the production of any piece shall be recouped in the market. Therefore, the more rapidly a piece is produced the better for the owner of the *fabrique*. At Sèvres, so far from there being any inducement for an artist to finish designs rapidly, the arrangements are calculated to encourage the bestowal of much time. The artists attached to the establishment are paid according to what they do; but none of them are allowed to undertake more than will bring them 140*l*. a year.

It is obvious this system has its drawbacks, although in practice it has been generally found that the *prestige* of being attached to the manufactory outweighs the consideration of the far larger salaries that can be so easily obtained elsewhere. There are two other influences always present, and perhaps stronger. The charming village of Sèvres, with its steep hills sloping down to the Seine, its sunny fragrant gardens and its shady woods, the free unrestrained mode of living, the companionship of brother artists, and the general *entourage*, are attractions from which an artist would not readily sever himself. It is well known, for example, how large a sum was offered by Minton to M. Solon to induce him to come to England. The artists hold that if a *confrère* leaves his country, or even goes into the provinces, he loses his touch. As regards competition. It can hardly be said, indeed, that Sèvres does enter into competition with private *fabriques*, for the results arrived at are open in the freest manner to all who ask for them. Moulds in plaster of any of the forms can be had for the cost of taking them, and any new materials or combinations of them can be had at cost price, with directions for their use. The manufactory is a truly national one for the development of progress in art-pottery. The small extent to which it practically comes in competition with private *fabriques* is seen from the fact that while the annual value of French pottery spread over 102 factories is, on official data, forty-two million francs, Sèvres sells no more than from 110,000 f. to 120,000 f. as a maximum. In any comparisons that may be made between the excellence of Sèvres productions and those elsewhere, the fact of the subvention should, in justice to the enterprise of private firms, be recollected.

In referring to the objects shown by Sèvres it will be convenient to begin with the vases on separate pedestals around the pavilion. They were subsequently frequently re-arranged, but are referred to here as if in the positions in which they stood throughout the greater part of the Exhibition.

The first is a fine *gros bleu* undecorated vase with aluminium gilt mountings. The metal handles represent Cupids holding a cable between them, which rests in a graceful curve on the vase. The effect is most pleasing, and the harmony of the whole is perfect; at least, it would be interesting and instructive to hear what adverse criticism could be raised against it. A pair of vases by Derischweiler come next, decorated in Renaissance style by the new gilding process. The colour of the ground seen through the gilding is in this instance blue, so that it appears as if the gilding were laid directly on the *gros bleu* ground of the vase itself. The next pedestal supports a vase with a design of grapes and wisteria, the delicate tinting of which is due to the *demi-grand-feu* process. Continuing along this side, without going into the cross passage, the next vase is a large blue one decorated with the new gilding process by the inventor himself, M. Réjoux, who has in this case left the brown colour to show itself through the gilding untinted. The softest in appearance of all the large vases, not even excepting those in *pâte tendre*, has been produced by the *demi-grand-feu* process. The painting on white ground by Madame Apoil is of surprising grace and delicacy, with an absence of all strong colouring except on the neck and foot. The perfect sinking of the colour into the glaze gives the utmost softness, and the vase is probably the finest piece of glazing ever produced on true porcelain. Following this is a vase by Adolphe Schildt, which has a blue ground, and a subject painted on a medallion, "La Triomphe de la Vérité." It is in the old Sèvres style, which Schildt alone is said to have kept up. Then follows a remarkable vase of the shape known as "Vase de Neptune." The body is of a pale milky grey, and the decoration around the neck is the work of M. Larne, "sculpteur." It will be noticed that all the Sèvres artists in *pâte-sur-pâte* sign "sculptit," not "pinxit." The subject is a *cortège* after the antique, in *pâte blanche* on a coloured ground, the figures being surrounded by very hard lines, which give a not very pleasing effect. In the adjoining recess are a pair of vases, by Roussell, with allegorical subjects, which are beautiful

examples of delicate painting. The vase at the following pillar, by Ch. Laban, is another example of gilding by the new process, and with tinted golds. The subjects of the decoration are groups of chrysanthemums and woodbine. Crossing the passage, the next vase is bold in shape and design, and interesting as being one of the first rescued from destruction by the *demi-grand-feu* process. The ground is a pale celadon, except the space left in front for a water scene, which is painted in *pâte-dure* colours. To conceal the result of accidents which happened to the glaze, the ground has been profusely covered with wisteria on trellis-work, and a pair of kingfishers are added in the richest blues and greens, produced by the *demi-grand-feu*. In the next recess are a pair of vases in *pâte-sur-pâte*, with handles. The ground is celadon, and the subjects are in white, which, as is usual in the Sèvres *pâte blanche*, are of remarkable transparency. The drawing by Ferdinand Regnier, by no means faultless, is after the style of the procession of the Elgin marbles.

The next single vase, of large, deep, mottled blue, is the last on the south-east side of the pavilion. It is a grand vase, with metal mountings, in parts bronzed, gilt, or coated with platinum. Acanthus-leaves enter into the design.

Passing now to the north side, it will be at once noticed that the works of greater excellence are those already referred to. At the north-east corner is a blue and white vase by Ficquenet, a good example of vermiculated ground. Massive, well-proportioned handles in metal are formed of goats' heads, with their horns, which are long, and curved backwards. Passing over the recess to the next column, there is a vase intended to decorate a picture-gallery of the Louvre. Its beauty depends upon its form, as it is of one subdued bluish colour, and there is a complete absence of all subject. The aim has been, that it shall not distract attention from the pictures among which it is to be placed. Two other single vases on this side have metal mountings, one with and one without handles. That with handles is a remarkable study in various tints of blue, with blue peonies and blue-tinted rocks, and the effect is slightly heightened with gold; and that without handles is a free treatment of a study of mallows, painted in *pâte-sur-pâte*, the colour of which is rich, the rose-colour on the mallows not having been produced before. The large vase in marbled blue at the western end, in addition to the metal mountings, has handles in white biscuit, formed of Cupids, but with unharmonious effect. The artist is M. Fulvy.

In the two cross-passages that divide the pavilion into three portions there are six single vases and three pairs. The eastern passage contains a very good vase without handles, and has a free treatment in decoration, in which a stork is the principal object, and a pair highly decorated in blue, green, and gold. Opposite is a yellow vase, of some importance from the clearness of its colour. In the other passage are two Perso-Indian bowls; one, of intricate *cloisonné* workmanship, is of self-coloured *pâte*, incised and filled in with *pâte dure* and coloured clays. The decorating by incision and filling in gives a sharpness of outline not otherwise obtainable. There is also a vase with Iris and raven decoration on a purplish ground, which, besides being of interest as a work of art, is important, as it was the first specimen produced with the high glaze of the *demi-grand-feu*. Two good examples of *pâte colorée* are also shown in this cross-passage.

At the semicircular stand at the western end are several examples of enamel on copper after the well-known Limoges style. They are of exceptionally large size, admitted to be of the highest artistic merit, and are so highly prized at the manufactory that very large sums have been refused for them. For the last three years none have been made; the artists at the manufactory having proved themselves able to execute works of the finest character on enamel, have since devoted themselves to what they regard as their more legitimate work, painting on porcelain. At this end as well as at the other are shown a number of important vases, which, though the body is made of *pâte tendre*, are equally true enamels. The enamel colours are laid on as adhesive powder, and fused at a low temperature. The colours produced in this way are of greater depth and brilliancy than if applied by any ordinary methods. The decorations are mostly arabesque or scroll-like patterns, the prevailing colours being a deep turquoise, purple, white, and green, and they are profusely decorated.

Besides all the foregoing, there are a number of vases placed on pedestals apart from the pavilion. Among them are the following:—A large vase, called the "Vase des Éléments," including, however, only air and water, has been designed and executed by M. Gobert. The ground is grey, the decoration in *pâte blanche*, and the effects of light and shadow depend on the greater or less relief of the ornament, and on the transparency of the *pâte* allowing the ground colour to show through. The design is a close grouping of allegorical figures, in two tiers, those in the upper representing air, and those in the lower, water. The lower figures form, relatively, the foreground, being in strong relief; the upper figures, being much more transparent, give the effect of height and distance. The lower figures are in comparative repose; the upper figures, represented in full action, convey the idea of rapid motion. For delicacy and transparency of effect this vase has been probably never surpassed. Another *pâte-sur-pâte* vase, of much the same general character, is by Lemeire, the subjects introduced, which are arranged round the neck and on the body, representing the labours of Hercules. They are of extremely fine workmanship, and are very transparent. The ground of the vase is deep sea-green, and the decoration is enriched with borders introducing peculiar shades of red, chocolate, blue, and gold. Another distinct process of decoration is used in the production of a vase by Lambert, known as the "Vase de Vendange." The colour of the ground is *pâte-changeante*, produced *au grand feu*. The spaces to be occupied by decoration were removed to a slight depth, and filled in with clay tinted with colours used in the *demi-grand-feu*. The delicate yellows and pinks of the *demi-grand-feu* in combination with the peculiar grey only obtained by the *grand feu* has a delightful effect not producible by any other process. There is a "Vase de Neptune" *en camaïeu* representing the "Triumph of Bacchus" by M. Brunel-Rocque. The figures are beautifully and vigorously painted in brown and gold on a grey ground. A second vase of the same form, representing "L'Amour Vainqueur" and "L'Amour vaincu," by Derischweiler, is a fine example of modelling and incising in gold and silver.

An important work is the "Vase de Nîmes." The general tone of colour is pale, the ground being light yellow, and the prevailing tints upon it are lavender. "Loves" seated on arums, minutely examining with glasses, and dissecting flowers and butterflies, are intended to represent Study; bees are introduced to represent Work; and olive-branches, wheat-ears, and other allegorical symbols represent Peace and Plenty.

There is a very handsome "Vase de Paris," designed by Madame Escallier, executed by M. Célos by the *demi-grand-feu* firing. Through a border, giving the idea of a window trellised and overgrown with honeysuckle and other flowers, is seen a distant view of Paris. The view is thrown to a distance by the introduction of life-sized pigeons in the immediate foreground. The delicate colouring and gloss of their plumage form a remarkable feature in the vase. On the sides are the richly-coloured and gilded arms of the city of Paris. There are also many other vases deserving scarcely less attention than those already mentioned. Among the artists of these are Ficquenet, Richard, Bonnuit, and Caban.

Regarding the Sèvres Exhibition as a whole, it maintains fully the traditional position of supremacy of the manufactory, and gives all those indications of progress which might fairly be expected from the resources at its command.

We shall continue these remarks in our next.

BIFRONS.

CONSIDERABLE alterations and additions have been carried on during the past and present years to the mansion, offices, and stables at Bifrons, near Canterbury, in the county of Kent, for the Marquis Conyngham, from the designs of Mr. David Brandon, F.S.A.

Upon the completion of the works, and in commemoration of the coming of age of his lordship's eldest son, Lord Mount-Charles, entertainments were given to the tenants and other persons employed on the estate, and a sum of money was divided amongst the workmen.

Messrs. Simpson & Son, of Paddington-street, were the builders employed.

THE REPAIR OF CHURCHES.

THE recent litigation between the Metropolitan Board of Works and the Incumbent of All Saints' Church, Lambeth, though highly interesting to lawyers and the general public, is not a very edifying spectacle for the friends of the Established Church. For it would naturally have been supposed that rather than let the sight be presented to the world of an incumbent of a metropolitan church being worried in the Law Courts by a powerful public body, because he personally was too poor to pay for the repairs of the church, those enthusiastic Churchmen, of whom we are assured there are now so many, would have come forward and subscribed the necessary sum. However, the question of the liability to repair churches has been raised, and therefore it will be not inopportune if we devote a short space to this matter.

And first of all, as regards the case of the Metropolitan Board of Works *v.* The Rev. F. G. Lee, which came before the Queen's Bench Division on the 11th of November, and which contains in itself one distinct part of the entire subject. The Church of All Saints, Lambeth, had been built under a Church Building Act. By the first and chief of these Acts, which was passed in the year 1818, 58 Geo. III., c. 45, it was enacted (section 70) "That the repairs of all such district churches or chapels shall be made by the districts to which they respectively belong, by rates to be raised within the district in like manner as in the case of repairs of churches by parishes, and every such district shall be deemed in law a separate and distinct parish for that purpose; and the repairs of all chapels not made district churches shall be made by the parish in or for which the chapels shall be built." Here, therefore, we have, to a large extent, the policy and procedure connected with churches which should be built after the year 1818: they were to be repaired out of the church-rates raised from the parishioners. By some of the subsequent Church-Building Acts provision was made for the establishment, in some cases, of a repair fund as part of the endowment of new churches. Such, for example, is the statute passed in 1831, viz., 1 & 2 William IV., c. 38, the second section of which states, among other things, "where the intention shall be declared of providing a fund for the repairs of the church equal in amount to 5*l.* upon every 100*l.* of the original cost," then that the building shall be consecrated, and so forth. Therefore, so far as regards modern churches, they should, in some cases, be repaired out of the church-rates, in other cases out of a repair fund. But it will, of course, be remembered that in 1868 compulsory church-rates were abolished, and the difficulty arose in the case of All Saints', Lambeth, that there were no rates out of which to repair the structure of the church, although they are, as we have said above, the legal fund for the repair of modern churches. Accordingly, the Metropolitan Board of Works set in motion their powers under the Metropolitan Buildings Act, 1855 (18 & 19 Vict., c. 122) (not the Metropolitan *Management* Act, as reported in the *Times*). They considered All Saints' a "dangerous structure," they repaired it, they decided that the incumbent was the owner, and they attempted, under the 73rd section, to make him repay to them the cost of the repairs. This section enacts that "all expenses incurred by the said Commissioners in respect of any dangerous structure shall be paid by the owner of such structure." The metropolitan police magistrate would not, however, issue a distress warrant against Dr. Lee for the sum in question. Hence arose what was practically an appeal to the Queen's Bench Division, which tribunal decided that the incumbent of a church was not the owner of a building within the meaning of the Act in question, and consequently was not liable to pay the cost of the repairs. The result of this decision, with which we do not by any means quarrel, either in point of law or abstract justice, is that where there is no Repair Fund, or an inadequate fund, there is no means of obtaining the money to repair a church except by voluntary contributions. It would clearly be most flagrantly unjust that the incumbent of a church, who merely ministers to the wants of a congregation, should be held liable for the repair of a structure which is primarily for the use, not of himself, but of his congregation. It may be said that this decision may cause some practical inconvenience in poor parishes and districts, but

the obvious answer is that if the well-to-do churchmen do not care to come forward to the relief of their poorer brethren, clearly the National Church rests on no firm or lasting foundation. What is worth having is worth paying for, and therefore it is to be hoped that so long as the Established Church exists in England we shall not see many more such unseemly disputes as this upon which we have been commenting.

But the question of the more ancient churches is one even now of some interest and importance, and is distinct from that having to do with edifices erected under the Church Building Acts. Anciently the bishop had the whole tithes of the diocese, and a fourth part of these had to be applied to the repair of the church; but when this interest was released to the rectors the bishops were consequently acquitted of the repairs of the churches. Then the general rule sprang up that the parson was bound to repair the chancel, and the parishioners the body of the church. This rule, again, was varied in some instances, — especially in the City of London, — by custom which obliged the parishioners to bear the cost of repairing the whole of the church. This custom was also found in other places besides the metropolis, and in some instances it varied as by obliging the estate of some particular person to repair the chancel, and the parishioners the nave. Thus in the year 1833 a considerable litigation arose between the churchwardens of Clare, in the diocese of Norwich, and the Bishop of Ely, as impropriator of the great tithes, to compel the latter to repair the chancel of Clare Church. The bishop replied that from time immemorial the parishioners had repaired the chancel. The case was fought both before the Court of Common Pleas and before the Arches Court of Canterbury on appeal from the Episcopal Court of Norwich, and in both instances the bishop beat the churchwardens. This was an instance of the exception to the usual rule, and the parishioners were bound to repair the whole of the structure. Moreover, in those days the censure and sentence of the Courts Ecclesiastical could be invoked against parishioners and parties who failed to keep their churches in proper repair. Now, however, it is obvious, both from the case of the Metropolitan Board of Works *v.* Lee, and from the effect of the abolition of church-rates as regards the more ancient edifices, that the repairs of the churches in England must depend on voluntary efforts. Parishioners cannot now be compelled to pay money in the form of church-rates, and such being the case, there exist no funds from which the cost of repairing churches can be defrayed, except such as may be raised by gift. And it is clear, moreover, from the recent case which we have noticed, that the incumbent of a church is under no personal liability in the matter, even within the jurisdisdiction of the Metropolitan Board of Works.

THE KENSINGTON NEW VESTRY-HALL.

There is to be a considerable amount of ceremony at the laying of the foundation-stone of the new vestry-hall, which is about to be erected in the parish. In the first instance the vestry were anxious that the Prince of Wales should perform the ceremony, and at a recent meeting the chairman (the Hon. and Rev. Mr. Glyn, vicar of Kensington) was desired to place himself in communication with the Prince. At the meeting of the vestry last week, however, it was announced that Lord Kensington had consented to lay the foundation-stone, and the committee recommended that Thursday, the 28th of December, be appointed for the ceremony to take place, and that afterwards a dinner be held at Bayley's Hotel, South Kensington, the tickets to be one guinea each, and that the borough and county members, and such other gentlemen connected with metropolitan and parochial business as the committee may determine, be invited. Some objection was taken to Lord Kensington having been invited to lay the stone, on the ground that he was an outsider, one of the members observing that Major-General Boileau, who had spent so much time to further the interests of the parish, was the proper person. Major-General Boilean, however, said that, as chairman of the committee, he had asked Lord Kensington. The recommendation of the committee was affirmed, and the 28th of December fixed as the day for the ceremony. The estimated cost of the building is about 30,000*l.*, and it will be a large and prominent addition to the public buildings in the parish.

OPENING ADDRESS AT THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the opening address of the session, on Monday evening last,

Mr. Charles Barry, F.S.A., president, said,— For the third and last time it has become my duty and privilege as your president to welcome you to the commencement of another session of professional intercourse, no less pleasing to us all personally than useful, as I hope, in furthering the very worthy objects for which we are corporately united. At the same time, having in my two former annual addresses dealt with very many of the subjects of prominent interest to professional men, whether as artists or as men of business, I feel some difficulty in now offering to you observations sufficiently worthy of your regard. Not, indeed, from any lack of matters of deep interest to us all which are continually, year by year, coming forward and claiming notice, but in consequence of my want of sufficient time to consider them all as they deserve, no less than from lack of sufficient ability to deal with them exhaustively, and to deduce from their consideration all the advantage which they might perhaps be made to render to us. However, knowing that I may count on your indulgence and consideration, I will address myself as best I may to the task that lies before me; and in doing so I think that perhaps I cannot do better, after placing before you, as is customary, some memoranda of a statistical nature connected with the Institute in its last year's life, and after asking you to remember with me the friends who have passed away from among us since this season last year, to take a review of the comparative position of the Institute and its members in 1876, when you first called me to this chair, and its position at the present time,—in other words, to render an account of my stewardship.

With regard to the number of our members, in my address of 1876 I was able to point to a considerable increase of members in the year then last past (viz., 27 new members) as being beyond the average of the preceding years. I am now able, even starting from the vantage-ground of 1876, to announce a considerable further growth. Taking first for examination the class of our strictly professional members,— far from diminishing, they have increased during the above two years from 615 to 649; and as within that period 15 have died, the real increase is 49, or about 8 per cent. When we add to these the classes of our non-professional members, viz., honorary fellows and honorary associates (and notwithstanding the abolition of the class of contributing visitors), we find that the total number of members in 1876 was 636, while at the present time it is 744, an increase of 108, or about 17 per cent.

Once more, when we compare the roll of our non-metropolitan members then and now, we meet with no less gratifying results. Some few,—very few,—have left us since the subscription was raised, but, taking those who are with us still, and including those who have presented themselves for election since, all of whom willingly pay the full subscription, we find this result: In 1876 we had 272 non-metropolitan members; in the interval 6 have died, and we have now 290, showing, therefore, an actual increase of 24, or 9 per cent., in that class of members only. That much larger increases in our numbers may take place I sincerely hope, and, without being too sanguine, I think I may fully expect.

I congratulate our members also on the satisfactory state of our finances. Some among us feared, I know, that in carrying out the changes of the last two years our funds would suffer much fluctuation and possibly ultimate loss. It is not so, as a few figures will make abundantly evident to you. In 1876 our income (exclusive of all trust-moneys) was 2,153*l.*, while in 1878 it is 2,417*l.*, up to the present time, showing an increase of annual income of no less than 254*l.*, or nearly 12 per cent., and I see no reason why this increase shall not continue. I may further mention that our invested capital at the present time (exclusive of the trust investments) is 5,512*l.*; and I name this in reference to the expenditure which may be temporarily necessary for our better accommodation, pending the gradual, but I hope, certain, increase of members' subscriptions for these purposes, when the money so taken can be gradually repaid, and after which our investments will, I hope, soon considerably exceed their present amount.

The Library.

During the two years, from 1876 to 1878, our already valuable library has largely increased, for in 1876 it contained about 3,000 vols., and now there are 3,500 vols. (exclusive in both cases of periodicals); about 380 vols. having been purchased or presented to us since last year. This has been greatly due to the augmentation of the purchasing fund from the entrance donations of our Honorary Associates, but, even independently of that, we have a good store of cash in hand,—the fund in 1876 being 89*l.*, whereas, notwithstanding the expenditure on books of 85*l.* in the past year, it is now 156*l.*,—the money donations being nearly four times their amount in 1876, for in that year they were 53*l.*, and in the present year 198*l.* You will remember that one of the changes made by you, on the suggestion of the improvement committee, was to open the library in the evenings as well as by day: the result is shown when I mention that, in 1876, 268 readers in all made use of our collection, whereas in the past year we find no less than 596, nearly equally divided between day and evening students. Gratifying as this is, I do not yet think the enormous and varied fund of professional information we possess is used as fully as might be by our members, especially by our younger members. As you are aware, the council are doing all in their power to afford facilities of access by special reading-tickets, at a nominal charge, which are given to students in the offices of our own members, to members of the Architectural Association, and to the pupils of the Architectural Classes at King's College and the University of London. Many presentations of valuable books have been made, both by our professional members and by our honorary associates, while we are also indebted to several of our honorary and corresponding members,— at Berlin (Professor Gropius), at Amsterdam (Messrs. Cuypers), at Copenhagen (Prof. Meldahl), and at Paris (M. Vaudremer), for special donations illustrative of works in their several cities; and last, not least, we are to be possessed of the valuable library of our late friend, Mr. Nelson, consisting of 249 vols., many of them of much value.

Let me (at the risk of seeming importunate) again appeal to our members to add, whenever they can do so, to our lately-started collection of drawings of those old buildings which may have been entrusted to them for restoration; and while I ask you to thank Messrs. Carpenter, Tarver, and Withers, who have sent us contributions to this collection, again ask in your name for similar favours at the hands of many of our members, who undoubtedly must be able to enrich our store. Our new members, for instance, the two sons of the late Sir G. Gilbert Scott, will doubtless find it in their power to aid us in this respect when they have had time fully to examine the numberless drawings which their late father must have left behind him, from his special practice as a restorer. And there are, of course, many others of our living members who notably have had and are having great opportunities in the same direction. One of our members has kindly presented to us a very interesting series of engravings of our old City churches, and any addition to this series will be very gladly received, especially when we remember that under the action of the "Union of Benefices Act," and in consequence of the large metropolitan improvements now in progress, and likely to be undertaken, many of this class of buildings will ere long disappear.

I have also again to appeal to those of you who may happen to have duplicate copies of professional works to remember our "Lending Library." Although as yet of modest extent, it has been found most useful, and there can be no doubt that, with its growth, will increase the demands made upon it.

The Premises of the Institute.

We find ourselves still in our accustomed rooms, though the Council feel with you that they are no longer suitable or spacious enough for our needs and increasing numbers. Much care and thought has been given to the subject by the Council since we last met. I will not anticipate the special report which they will shortly lay before you, further than to express my personal hope that, whether we remain here or find a new home elsewhere, the

general body of members will take a broad and comprehensive view of the matter, not contenting themselves with small treatment of the matter, which would lead to present waste of money, and ere long need to be re-considered, but will look rather to the Institute of the near future,—as it ought to be,—as it may be,—and, with united action on the part of all, as it will be. It may, perhaps, be our wisest course for the present to content ourselves with temporary expedients for our greater comfort until we feel ourselves in a position to obtain a really permanent home for the Institute of sufficient size and sufficient dignity to deserve that name.

[Under the heading, *Obituary of the Past Year*, the President then gave some particulars of the members who had passed away during the preceding year, but as nearly all these have been already noticed in our pages, we omit this portion of the address.]

Turning now to some of the important events which have marked the past year, I think the most important in its interest and possible effects for this Institute is

The Paris Exposition.

Organised on a far larger scale and with a more perfect completeness than any former ones, architecture found, of course, its due place there, and the Institute will with pleasure remember the gracious letter of his Royal Highness the Prince of Wales, as president of the British section in that Exposition, asking the members of this Institute to aid him in the great work he had undertaken, so far as architecture was concerned, and the high compliment he paid the Institute, by nominating their president (for the time being) a member of the Royal Commission. I need not tell you with what anxiety I undertook, in your name, the important duties of this office. I was powerfully aided by a committee appointed by your Council, consisting of the most influential and distinguished members of the profession, so selected that on it should be found representatives of every school of architectural taste and thought among us. On the announcement by me to my brother Royal Commissioners in the section of Fine Arts, who were charged generally with the arrangements for painting, sculpture, architecture, and engraving, of the appointment of this committee, they at once agreed to leave the whole arrangement of collection and selection of the representative architectural works which were to be sent to Paris to them. How well they discharged their duty will be evident when I tell you that 171 works, by sixty-four different exhibitors, were presented by our committee to the Fine Arts section, and forwarded by them to Paris; and that, had space been at our disposal, this number could easily have been doubled. Mainly by the personal exertions of his Royal Highness the Prince of Wales, additional space was obtained for the British fine-art exhibit as a whole, in which extra space architecture shared to a moderate extent, consequently all these works so sent were enabled to be exhibited, and that they were well and carefully exhibited on the rather limited space, after all, at disposal, is due to the care and energy of our member, Mr. Roger Smith, who kindly undertook the difficult and delicate task of arranging and hanging them, and did his work, as far as I have heard, to the general satisfaction of the exhibitors. An international jury, consisting of ten members, whose names will be found in the note below,* was then appointed by the Superior Commission in France. Of these, five were distinguished French architects, who are honorary and corresponding members of this Institute, and by all I was welcomed with the utmost cordiality; each of the following nations was represented by one member of jury to each, viz.,—Austria, Italy, the Low Countries, Egypt, and England. I had the honour of representing England on this occasion. The duties to be discharged by this jury were very laborious, and demanded no little judgment and tact, and it will be interesting to our members to learn that more than a fortnight was devoted to carefully inspecting and considering each one of the very numerous works sent in by all nations, amounting in all to no less than 863 drawings, sent by nineteen different nations. A preliminary examination took place, with the object of distinguishing those works which were of sufficient merit to require further and closer examination, and, in passing through this ordeal, the English exhibit, consisting in all of 171 works, by sixty-four authors, had 126 works, by forty-four authors, reserved for such further consideration,—a considerably larger proportion than was obtained by the exhibits of any other country,—including even the French division itself. It will be remembered that, having in view the small space available for the British Architectural Exhibition, our committee confined their selection rigidly to works *actually* executed within the last ten years, or still in process of execution. On the other hand, the French architects having at their disposal about six times the space allotted to us, did not so confine themselves, but out of the 369 works sent by them, only 183 represented works executed or in progress,—a contribution very little, in fact, more numerous than our own,—while the exhibitors were not even as many as in our case.

It was a matter of regret to me that many English architects were inadequately represented, or not at all, and that the known extensive and important architectural works going on in our various colonies were also practically unrepresented. In answer to my inquiries on this head of the Colonial Commissioners, I could only obtain twenty-one drawings, sent in by four exhibitors, to submit to the judgment of the jury as representing the Colonial architecture of the British Empire.

The final report of the jury has now been made public, and you will note with pardonable pride that, in the award of prizes, English architects have been adjudged a larger number than any other country, except France, the number of whose exhibits (many of rare excellence) amounted to nearly half of the total number sent by all other nations combined. I see that a writer in one of our professional journals, when the names of English recipients of prizes for architecture was informally made known some time ago, was so good and so ingenious as to suggest or concoct a supposed system he thought was probably adopted by the jury in making the awards. Whether such a mode of making the awards would have commended itself to the judgment of the jury, had it been suggested earlier, I cannot say. It would certninly have abridged their labours very materially, but it will be more satisfactory to you to learn (and perhaps also to the writer) that no such rough-and-ready mode was adopted, but that repeated scrutiny and repeated votes were needed exhaustively to reduce the number of meritorious works to the comparatively small number of prizes at the disposal of the jury. That no small difficulty was thus experienced by them is shown in a very gratifying form to you by the formal resolution, spontaneously and unanimously passed by the whole jury, which has already been read to you, testifying their high appreciation of the merit of the English exhibit, and their regret that the limited number of prizes at their disposal alone prevented their rewarding it as it deserved, and requesting me as your representative to convey these their sentiments to my colleagues here; and, further, by the courteous letter enclosing that resolution, forwarded to me by the vice-president of the jury, M. Lefuel, at the request of the president, Herr Ferstel, who was obliged to return to Vienna directly our labours were over. Having once again visited Paris, to assist at the distribution of prizes, on the 21st of October last, I was much gratified to receive an invitation from the five French members of our jury, to accept from them a "dinner of honour" they desired to give to their colleagues from other countries. The Belgian member of the jury, M. De Stuers, was able with me to accept this invitation; we were most warmly welcomed, and their former felicitations on the success of English architects were repeated. I subjoin a tabular statement which will be of permanent interest to place on record, showing the number of works sent in by each nation, the number which passed the first scrutiny, and the number and quality of the rewards finally adjudged. I feel it only due to his Royal Highness the Prince of Wales, the honoured patron of this Institute, to tell you that, in the section of architecture, he took as lively an interest as he indeed did in all the sections of British exhibits; that he took the trouble to go with me carefully through our architectural room before the opening of the Exposition on the 1st of May, spending a considerable time there, examining nearly each drawing, and making remarks on many of them which evidenced not only his interest in but his knowledge of the subjects, and of the members of our profession. He has since desired his secretary, writing from Scotland, to express to me his great satisfaction at the honourable position obtained by English architects in this competition of the world. In the consideration of the awards, I ought to inform you that, although several members of the jury, both French and foreign, were also exhibitors, they naturally withdrew their names from the list of competitors, having to act in a judicial capacity. For myself I have seen with no small satisfaction that the choice of prizemen for England has been received without any disapproval by my own countrymen and professional colleagues. I am sure you will join with me in real satisfaction at the position taken, as regards our loved profession, by English architects in presence of their competition with their foreign brethren.

Synopsis of the Architectural Section of the Paris Exposition of 1878: Awards by the Jury.

Country.	Number of Exhibitors.	Number of Exhibits.	Reserved for second scrutiny.	Medals of Honour.	First Medals.	Second Medals.	Third Medals.	Totals.
France	146	369	125	2	4	6	6	18
England	64	170	126	1	2	2	2	7
Austria	20	80	65	1	2	2	1	6
Switzerland	49	102	10	—	—	—	1	1
Hungary	24	28	4	—	—	—	1	1
Italy	14	20	10	—	—	1	1	2
Russia	8	11	2	—	—	—	—	—
Spain	11	14	None.	—	—	—	—	—
Belgium	6	10	6	—	—	—	1	1
Pays Bas	4	4	2	—	—	1	—	1
Australia	2	7	None.	—	—	—	—	—
Canada	2	14	None.	—	—	—	—	—
Uruguay	2	2	None.	—	—	—	—	—
Luxembourg	1	4	None.	—	—	—	—	—
Greece	1	4	None.	—	—	—	—	—
Portugal	1	11	None.	—	—	—	—	—
Sweden	1	1	None.	—	—	—	—	—
Denmark	1	1	None.	—	—	—	—	—
Tunis	1	1	None	—	—	—	—	—

Or only 37 medals for architects of all nations.

In addition to the above, "Honourable Mention" was awarded to works as follows: seven to France, two to Austria, and one each to England, Italy, Hungary, and Switzerland; while in the cases of one English architect and one Austrian architect, who had in 1867 received Gold Medals, a "Rappel de Médaille" was recorded.

"Metropolis Management and Building Acts Amendment Act, 1878."

During the past year the Metropolis Management and Building Acts Amendment Act, promoted by the Metropolitan Board of Works, has become law, after a very searching consideration by an influential Committee of Parliament. In preparing their Bill the Metropolitan Board sought the assistance and advice of the Institute, and a committee of our members gave much anxious thought to a series of memoranda for the consideration of the Board, and their co-operation was very courteously acknowledged. Before the Parliamentary Committee several of our members gave valuable evidence, notably our esteemed vice-president, Mr. Whichcord. In the event the Institute has been informed, on his authority, that the views of their Committee in all essential points commended themselves to the Committee of Parliament, and are practically embodied in the Act which has been passed. That on so large and difficult a matter there is still room for useful alterations and new enactments will be readily believed, and when an opportunity again presents itself of considering effectually this most important subject, I hope and believe the advice of the Institute will again be sought in the preliminary stages of any Bill which may then be proposed.

The Egyptian Obelisk.

Am I to congratulate you that the "illustrious stranger," the Egyptian (now British) obelisk, has at length quietly settled among us? On the whole, I suppose I may, but it is with no unmixed feeling. A public, professional and lay, tired out with giving "unheeded" suggestions,—at last left to those immediately interested the decision of the question as to site and treatment in which the public would, if more permitted, have taken even a deeper interest.

* Names and countries of the jury:—France,—MM. Ballu, Lefuel, Duc, Bœswillwald, and Vaudremer; Austria,—Herr Ferstel; Italy,—Commander Basile, of Palermo; England,—Mr. Charles Barry; Pays Bas,—M. de Stuers; Egypt,—Mariette Bey;—from whom Herr Ferstel was nominated president by the French Superior Commission. M. Lefuel, vice-president, and M. Vaudremer, secretary and reporter, were chosen by the other members of the jury itself.

The result is before us, and the weary wanderer is at rest. But how? Quietly buried (I mean erected) in this great Babylon among houses and buildings that overtop it; squeezed into an unpretending nook obtained with difficulty from our corporate Ædiles. A monolith of unknown age,—a witness of a period past so remote as to be realised with difficulty,—a mass of 200 tons in weight, evidencing a labour and probable sacrifice of human life at its birth which must be left to the imagination,—finds itself upreared on a pedestal composed of small stones (old materials in fact) instead of on a monolithic mass worthy of itself; pushed into a waste corner of our river wall, central with nothing around, and lastly, on a low level instead of on such an elevation as might add to its importance in place of lessening it. How differently, and with how much dignity and taste, our French neighbours have treated their Obelisk in the Place de la Concorde we must all be too painfully aware. In deploring the result, which I think could hardly occur in any other European metropolis than our own, be it fully understood that I do not detract a jot from the well-merited praise and sympathy due to the zealous private citizen and the talented engineer, who with so many unexampled difficulties, have yet brought to us this relic of the past. But what I deplore is that our national, or our hardly less powerful municipal, Government did not take the matter into their own hands so far as regards a suitable site and a dignified treatment of the monument as to its substructure, and did not undertake to secure the best and most impressive surroundings for such an addition to the interest of this metropolis.

Competitions.

The question of architectural competition seems next to demand a word from me. A vexed question this among ourselves and among outsiders. A condition of things created and maintained entirely by ourselves, and, as I think, an unhappy condition of things for all parties, wherein we are placed in the position of "touting" for work which should come to us as a right and a compliment. Heartburnings, disappointment, and jealousy are the children of the system; while the specious suggestion, that by this means alone, or chiefly, true merit is to be unearthed and recompensed, emanates surely from some malicious sprite who joys in our distress and divisions. The mistaken public view of competitions is, of course, largely due to our young and zealous architects who desire sometimes to run before they can walk, and rush into attempts, repeated to their sorrow again and again, which, alas! bring only occasional success against enormous disappointment. They would really gain, if they could only think so, by doing patient, quiet, and even unknown good works, bringing no disappointment and only delay in recognition of their power, which then becomes by experience greater day by day. Such quiet labours, such gradually developed talents, would bring them under the eye and judgment of their seniors, and would surely bring to real merit its due reward; in due proportion to that merit would those of real genius become separated from the ranks, and without the heart faintness arising from frequent failure, without the loss of time and money which can oftentimes be ill afforded, that belong to the present system. No other profession than our own is placed systematically in this position, yet the "men of mark" arise from their respective ranks in each profession as they have the right and title to do. Why should we alone induce the public to hold us cheap by cheapening,—I had almost said,—obliterating ourselves?

An occurrence within my own knowledge during the past year has led me into these remarks, and may have some interest for you. In March last the Commissioners of Hove, in Sussex, desirous of obtaining a design for their proposed Town Hall, inquired of me, as for the time being president of the Institute, whether in my opinion, "with a view of avoiding the unseemly discussions that have recently taken place with regard to open competitions, an open competition for such a work would be desirable in all respects, or whether it would not be better to limit the competition to eight or nine well-known men of ability." To this I replied that, in my opinion, an open competition was the worst course possible; that a limited competition was only less bad; and that, in my humble opinion, the *best course* was not to choose from *plans*, but to choose a *man* "as carefully as they could, whether by vote or otherwise, in a committee (as they would, indeed, choose a solicitor or a physician), and having chosen him, to put themselves in confidential communication with him from the outset, "and thus save time, money, and temper"; while disappointed competitors would be spared "that feeling of soreness which arises against a system which requires many men (earning their living by hand and head work) to give a client many designs while he will actually only pay for one."

The Town Council took my advice, and decided not to ask for plans, but to consider six names which presented themselves to them, and you will feel with me, I think, they will have no reason to regret the course I advocated when I tell you that their choice fell on Mr. Waterhouse, who will, I doubt not, produce a design in the credit of which we, his brethren, may feel some reflected share, though, of course, the full measure will be his own. I have reason to believe that this is not a solitary instance of "a man" being chosen by competition in place of the present system of "a plan in competition." I trust the habit may grow, and I feel sure that in the end architects as a body would rejoice in the change." *

THE LORD MAYOR'S SHOW, PAST AND FUTURE.

The Lord Mayor's Show is, at first sight at least, so uniformly monotonous a thing, and is so well and familiarly known to both great and small, that it would seem more could hardly be said about it in addition to what has hundreds and hundreds of times been already said. But this is hardly the fact; the "Show" is not quite the dull and dead repetition of the same thing it looks. There is always a something a little *new* about it, and a something to mark it off from the last year's display; and still more emphatically, if we but go back in thought to the "Shows" as they must needs have been in the Middle Ages, or in the days of good Queen Bess, of such famous memory. We have many times thought of how great the interest would be in the sight, however dimly, of a true pictured representation, in detail, of the show as it *at first* fell into order, and wended its way through the then quaint and narrow streets and ways of London town. We can, nowadays, no more picture such to ourselves than the men, women, and children of that day could have imagined *our* show as it was a fortnight ago, with its surroundings, and with the Embankment and modern London, with all its new things, steam-driven as they are. All and every thing has changed, not always and in every way for the best, perhaps. And we may well ask, with some curiosity,—Has the Lord Mayor's Show changed from what it was for the best?

It is, it must be confessed, well-nigh impossible, in seriously glancing at this "Show" at all, to avoid contrasting it with those which did and must have gone before it so many times. We must not indulge in too lengthy a survey, but it will make the matter clearer if we consider this procession as passing through at least three quite distinct eras of art-surroundings and influences. There were the purely Gothic influences, and forms, and details, as in the days of the Edwards. There was the "Elizabethan," quite as marked in its special way, in the days of Elizabeth; and there is now the strictly of to-day, and modern, phase of it. These three were and are, as distinct and individualised, and new in their generation, as would be a Greek procession through our modern streets. In the days of the Edwards, all and everything, streets, houses, buildings, costumes, shop-window shows and displays, could have had but one all-prevailing art character. The style of the day was Gothic, it matters but little of what phase. It was Gothic every bit of it, and could convey to the mind's eye but one art-impression, and could speak but one language. It is, even after all that has been done in the so-called revival of Gothic forms and ideas, but dimly that this Gothic of past days can be imagined, or its all-surrounding influence understood, for it was not alone in architectural forms that it made itself ever and always present, but in everything. The whole life of the time was Gothic. How can we nowadays realise this?

And then, again, there was what was quite as quaint and individualised as the pure Gothic itself, that style of art and art influence which has been called Elizabethan. The Gothic died a hard death, and before the "Classic" could take full possession of the Gothic-formed mind of the public, the quaintness of the Elizabethan days held rule, and contained in itself not a little of the Gothic feeling which made it so familiar and so attractive. It is much easier in London, certainly, to get hold of a mental impression of the show as it was in the days of Queen Bess, than it is to get an insight into that of the Second Edward. Not only is it nearer to us, but its forms and ways of life are closer and more intelligible. Indeed, might we not ask, in passing, are we so far in advance of that queen's days as so many seem to fancy we are? It would be hard to imagine anything more picturesque, quaint, and pictorially attractive than must have been the Lord Mayor's progress in the days of Queen Elizabeth, whatever course it took, and however it was composed. But however made up, it must needs have been attractive, not only as a moving show, but the street-ways, all harmonising with it, must have made of it a complete and harmonious picture, of which we have and can have but little, if any, definite idea. We see it at times in pictured representations on the walls of acadamies and galleries, but there only.

But how both these individualised art impressions differ from that which nowadays, and but yesterday, forced itself on the notice of the public, who so filled the streets, and lined the way, and in numbers so far outnumbering what could then have been possible. In a former day, all that was,—as far as fine art is concerned, and this Lord Mayor's Show is in truth a fine-art matter,—was, as we say, a harmonious whole, and a unity; but as things are, it is all of it the reverse. What incongruities; how little, if any, harmony strikes the eye of the spectator; how little there is, after all, to indicate the immediate present of things; how little to show that the City of London has anything to do specially with it; nay, to come to the most emphatic of all, how little is there in the Lord Mayor's Show of to-day, and of yesterday, to indicate outwardly to the show-loving public the all but boundless wealth of the mighty London City and its citizens! With the sole exception of my Lord Mayor's coach itself, there is all but nought of gold or even of gilded work to be seen. Most of the carriages which in old days must have made so striking a feature in the procession's length were but of the usual, and everyday, and commonplace pattern, and wholly without any special decorative or ornamental feature, thus to compel a sort of harmony between them and the stately coach itself. We say nothing of the moving boat on wheels, filled with men typifying life-boat experiences!

It must, too, be borne in mind, that in days gone by, perhaps not to return, when shows and processions were of so much greater meaning and import than they now are, or can be, the street-ways through which they passed were in full harmony with them in artistic expression. And not only so, but efforts, and special efforts, were at all times made to add to this by "decorations" of divers kinds. We have now before us a quaint print of a street-way in Queen Elizabeth's time where this is shown in a very marked way, and the good citizens would seem to have evidently vied with each other in their efforts to do all they could to add to the gala and festive nature of the "show" by the decoration of their house-fronts and windows. As all know, this is done to a certain extent as it is, but more out of necessity and accident than otherwise, and but a very rare sight indeed it is to see any kind of art-display visible, or anything which would compel the belief that the spectators of the show, as well as those who take part in it, had any real concern or interest in it, or thought it worth while to expend a farthing upon it. And yet it is surely worth this if worth anything, or worth preserving, and yearly repetition. This yearly City display ought to do some good, and be made to typify a something, and to evidence to those outside the City walls what can be thought of, and done by, those who live and trade within them.

We are not here in search of defects, or wishing for opportunities to make disparaging comparisons between the past and the present, but rather to suggest a thought or two for *future* consideration. If the Lord Mayor's Show is worth its cost,—and it costs a good deal,—and if it be worth preservation and yearly record, then we would say it is worth the doing well, and

* The remainder in our next.

taking some thought over. It is artistically, and as a living and moving picture, that it is deficient. Would it not be worth while to begin again, and harmonise all its parts, and design it anew, everything being made and thought out specially for it, and to be in use for it, and it alone? We say all to be harmonised: thus to revive, not the mere letter of the past shows, but the spirit of them. Now all is incongruous and discordant, but all might be pictorially harmonious, and the several parts and details of it made to fit into each other, worthy of its purpose, and of the great and rich City which it in part symbolises.

A most curious question indeed is involved in this show, for the tendency of the time is doubtless to look down upon things of the kind as remnants of a past state of things, and to consider them as evidences of the absence of what is now thought advanced civilisation. Shows are useless, and involve both waste of time and of material that might be more profitably and usefully employed. But it must be remembered that even if this be so, the sacrifice is for a something. All the great art of past days, and to which we owe so much even of our material wealth, was originally inspired by the sight and contemplation of such art realities in life and action. We need not even to name them. The resultant art, great and wonderful as it at times was, came from the living art all round and about those who so ably utilised and copied it. The oldest art we have record of, the whole range of the antique, and the Gothic, to use a general and descriptive term, all of them alike evidence this. The Greek Parthenon, with its famous frieze and metopes, is all sufficient evidence of this. Much good might come of it, if carefully thought out, in many ways. It is worth a little talk to know how best to accomplish such work as this without any direct copying of past art forms, but at the same time not to neglect the fine hints it affords.

WARMING AND VENTILATION AT THE PARIS EXPOSITION.

Sir,—It has been several years since I have written to you; and if my long silence has led you to the conclusion that, like most enthusiasts in ventilation, my struggles with the air currents to make them go where they ought to go instead of persisting in going the wrong way, had completely worn out my patience and silenced me in my advanced age, please allow me to dispel such erroneous impressions.

Perhaps I ought to preface my remarks, however, by the acknowledgment that I was compelled to succumb to the waywardness of those air currents and "draughts," and had to make a compromise with them; they agreeing on their part to let me alone in my warming arrangements if I would let them alone in their frolicking, gambolling, erratic motions, or, in more serious mechanical language, I had to abandon the attempt to make the air-currents the burden-bearers for the heat, and to confine the heating to the floors, walls, or solid objects in the room: thus warming the persons in the room by contact with the warmed floor, or by direct radiation from the heated surfaces in the room, and leaving the air cool and invigorating for breathing, and at liberty to go out or in, or wherever it pleased to go. Since then we have worked together very satisfactorily, and have had much peace and solid comfort.

Yes, I was obliged to entirely abandon the work of half a lifetime, acknowledge that all my patents in America and Europe for hot-water apparatus for warming occupied apartments by circulating hot air were worthless,—that the whole system was erroneous.

Since I have entirely abandoned air-warming and adopted *direct radiation only*, I have been so successful, and the work has given so much satisfaction that it has kept me so constantly occupied, and I have scarcely had time to write even to the *Builder*, which journal I regard as the great pioneer in all valuable sanitary reforms.

Perhaps, since my conversion to direct radiation, and my entire abandonment of all air-warming contrivances, I am like the reformed toper, much more enthusiastic in the advocacy of the new principles than one who had not been led so far astray.

I have been two or three weeks examining the great Exposition in Paris, and of course nothing that looked like a warming apparatus, or a diagram or photograph of any building in which any hint might be given of the methods employed for warming and ventilation, passed unscanned. Russia displayed a number of her immense porcelain ovens or stoves; Norway and Sweden did the same; and, in fact, nearly all the European Continental nations did. This being the old and almost universal method of heating for so many centuries, the great effort seems to be to make an apparatus occupying so large a portion of the room as ornamental or as little offensive as possible.

So far as such heating apparatus are used as direct radiators, the principle is physiologically correct, but in practice they are usually placed on the inner or warm side of the room, and are often so high that a large portion of the heated surface is above the heads of the occupants, instead of below them. All the fresh air entering at the cracks and crevices must flow across the floor to the warming oven, thus giving that distressing feeling of cold draughts on the feet, with all the heat concentrating towards the ceiling or around the head.

Ornamental as these are, and in some respects so good, the objections to them quite outweigh the advantages. We, therefore, find each nation endeavouring to find some substitute that will give all the advantages without the disadvantages.

The first attempt at ventilation is almost certain to be met with the cry of "cold draughts." To obviate this the reasoning is very simple. Warm the draughts. And here the trouble begins. The warmed air will not stay at the floor, where it is needed; and the next thing is to stop up all openings at the top to prevent the escape of the warmed air, and then you soon feel all the discomfort and oppression of being in a diving-bell under water. Another practical difficulty is that as soon as a door or window is opened above, the hot air escapes there and leaves no heat below. Innumerable contrivances have been adopted to overcome these difficulties, but none have yet been satisfactory.

In his desperation, the engineer resorts to the steam-engine and fan to make the air go where he wants it. The principle, however, being radically wrong, this is only an extravagent waste of money, and aggravates rather than comforts the unhappy victim who is earnestly seeking for that great desideratum, — a comfortably-warmed and well-ventilated apartment.

The old Romans solved this question very correctly in a practical way, by warming their marble floors; and yet is it not strange that this important point has become so nearly one of the lost arts, that in the magnificent drawings for the restoration of some of those splendid old Roman buildings (which line several rooms at the Exposition) this point of floor-warming is quite or entirely overlooked by the modern architects? And not in these ideal buildings only, but in the real ones as well, which are scattered over all the country.

But to return to our examination of the Exposition, we find the contrivances for air-warming on every hand.

Russia displays very ingenious devices for extending the air-heating surfaces of her new hot-air furnaces. Sweden and Norway have elegant stoves, all calculated to prevent the radiation in the lower part of the room where the heat is needed, and save it to be sent in the warmed air to the ceiling, where it is not wanted. Belgium follows suit. At Brussels the plans for their magnificent new building for law-courts show that it is to be warmed by hot-air currents, and I think it is already done. Austria gets a gold medal for an enormous hot-air furnace,—larger than anything I ever saw in the United States, the very hot-bed of the "Vesuviuses" and the "Ætnas," and all that tribe of health-destroyers that have well nigh dried the very flesh off the bones of the Americans.

France, too, has caught the air-heating fever; in fact, has it badly. She must even disgrace the glorious open fire by attempting to make it do duty also as a miserable air-warmer. To be sure, they are so economical in the supply of fresh air behind the fire that it does not amount to much, but I detest the principle.

Fortunately for England's credit, I think, she did not show an out-and-out vicious hot-air warmer in all her exhibits. She has a sort of leaning that way, however, in attempting to compromise the matter on some of her open fireplaces. I noticed in one exhibit the disposition of small pipes around the room, to be used probably for circulating hot water. This is very good if let alone. But in the exhibit great care seems to have been exercised to show that the pipes were covered by a perforated base-board. This spoils it. There are two objections to covering the pipes,—one is its obstruction to the direct radiation, and another, it allows of the collection of dust and prevents frequent cleansing. The warming-apparatus should be as carefully cleaned every morning as the vessels from which we drink, or dishes from which we eat. I have given great attention recently to arranging all heating surfaces so as to be readily cleaned.

It is to be hoped that England will cling to her old open fires, defective and troublesome as they are in many respects, until some better method of warming can be devised than any of the air-heating contrivances that seem to be having full sway now all over the Continent.

When you see air-warming so universally used,—air-warming in schools, air-warming in churches, air-warming in dwellings, air-warming in public and private buildings of all classes, from Russia to Italy,—air-warming to the right of you, and air-warming to the left, and air-warming everywhere,—one almost hesitates to believe his own convictions, and has to stop and ask,—Is all the world insane on this subject, and is he alone sane and clothed in his right mind? But, fortunately, there are already many thoughtful persons who have carefully studied this subject, and make very intelligent converts to the direct-radiation theory; and the number of such is increasing very rapidly. These are the bright rays of light seen in the horizon which begin to dispel the gloom of the dark night of the air-heating fallacy, and cheer us, and enable us to hope that we may still live to see the full knowledge of the inestimable blessing of direct radiation spread over the earth, and dispelling those fallacies that now darken the minds of the people as the rays of the bright clear sun dispel the morning clouds.

Lewis W. Leeds (of New York.)

ENGINEERS IN INDIA.

The public works of India are in some respects the most important of the matters with which the Government of India has to deal, since they include not only the means whereby communication is kept up within this vast province, but even those which tend to the sustenance of the people and the stability of English rule, for all the works connected with roads and with irrigation fall within this class.

It is of the highest importance, therefore, that those public servants who have charge of this department should be highly educated and energetic men. It was with this view that some years ago the Secretary of State for India established, as our readers know, an Engineering College at Cooper's Hill, near Chertsey, and it is this establishment which has caused a good deal of discussion among the witnesses who were examined last session before the Committee of the House of Commons appointed to inquire into the East India Public Works.

The fact that such a college exists necessarily causes a larger and more constant stream of young engineers to be turned annually into the India Public Works Department. It is also plain that this causes to some extent a less demand for native engineers, at least, in the higher places, because the Government necessarily have first of all to find places for the English engineers whom they have educated and prepared specially for this work. From the evidence of the several Indian officials who were examined before the Committee there seems to be no doubt at all that a student from Cooper's Hill has a better chance of employment than a native, for instance, from the College at Roorkee. The consequence of this is that there is a difference of opinion among the highest authorities, whether the old system of native engineers and English engineers selected from the Royal Engineers and private civil engineers was not better than the new one which is gradually being perfected, namely, native engineers and engineers drafted from Cooper's Hill. There is a clear consensus of opinion that the native engineers are well fitted for subordinate posts, but that they prefer to be placed high in office at once. Thus, Lord Napier and Ettrick remarked before the Committee, "I have heard of officers employed upon the Godavery Works state that they have had native subordinates who exhibited the greatest natural ability for practical work." On the other hand, with respect to the appointment of natives in the highest offices,

he adds, "I perfectly agree that the great majority of the public functionaries in India, of the higher class, in the Public Works Department, as in all the departments of the Government, ought to be Englishmen." There is, in fact, a difference of opinion, one which would not be easily solved, whether the natives of India, generally speaking, have a real aptitude for the kind of work which is required of them in the Public Works Department; yet there is no doubt that, apart from this, not a little of the uncertainty in dealing with the question of utilising natives in this department arises from the difficulty of reconciling the supremacy of the British with the subjection of the natives. That is to say, we educate, and we endeavour to raise the mental and bodily tone of the natives, to interest them in our rule, and to obtain their assistance in our practical dealings with their country; but, on the other hand, we have to keep our rule supreme, to employ our highly educated young men, and as there are, after all, only a certain number of the higher posts, it is very difficult for both the native and the British elements to be properly amalgamated, and both the objects which we have mentioned properly carried out. And there seems a good deal of reason to expect that the establishment of Cooper's Hill will tend by degrees to prevent this amalgamation, and that the English will overcome the native element. Thus, Colonel Fife, a man of very great experience in the Public Works Department, says,—"Undoubtedly, if a number of engineers are sent out regularly from Cooper's Hill every year, it necessitates the keeping up of a permanent establishment to a certain figure," and in answer to Mr. Fawcett's question, "So that the evil of having a large and expensive Public Works Department may be rather intensified by the system?" Colonel Fife replies, "If the supply is entirely from the College, I think it may.' Now there can be no doubt that every possible economy will be more and more practised in India, as the English people more and more look into the government of our Eastern dependency, and it is therefore quite certain that unnecessary officials will not be allowed to remain or to be appointed in the Public Works Department, and it seems equally clear that the officials to go will not be the students from Cooper's Hill, but the native engineers. This, indeed, seems to be a result which can hardly be avoided, because when you have admitted a young man into a special college with the understanding that he shall have special appointments in India, it is impossible to turn round and say that his services are not required. On the other hand, it is very difficult to regulate the number of admissions so as to equalise them to the wants of India three years after. Yet it is quite obvious that Cooper's Hill College presents many advantages. As Sir George Campbell says, "I am very strongly of opinion that an institution of this kind is beneficial and calculated to promote the best interests of India; for this reason, that as far as I have been able to learn, it has always been remarked that, among our English engineers, although there has been an excellent practical education, although very many of them have, or most of them have, by a rule-of-thumb sort of practice, come to be very good and efficient men in their profession, still they are deficient sometimes in general education, and almost always deficient in the theoretical education which is afforded by the engineering schools of many Continental counties. I believe that there exists no school in the country equipped with every necessary for turning out young engineers, except Cooper's Hill. At the same time, I do feel that, cut off as they are from what is going on in Europe, there is a great danger that our limited and exclusive services may run too much in one groove." It would not be difficult to quote a number of other opinions expressed by equally able and capable persons, and there can be no doubt at all, when the committee publish a report at the end of next session, that their judgment on this point will have a marked influence on the career of the Indian engineers of the future. We do not propose to anticipate that decision by any judgment of our own, but it is obvious that it will be unwise to choke off native engineers entirely, which will be the case if all the higher posts are held by Englishmen; it is equally certain that the danger of narrowness which Sir George Campbell points out must be avoided, if possible, and yet it is equally certain that the system of continual drafts of able young engineers, animated by an *esprit de corps*, is most advisable. So far as we can see from the voluminous evidence before us, there will be not a little difficulty in reconciling all these somewhat conflicting objects, but that it may be possible to do so is greatly to be hoped.

QUICKLIME A PRESERVATIVE OF WOOD.

M. Lostal, a French railway contractor, recommends quicklime as a preservative for timber. He puts the sleepers into pits, and covers them with quicklime, which is slowly slaked with water. Timber for mines must be left for eight days before it is completely impregnated. It becomes extremely hard and tough, and is said never to rot. Beech-wood prepared in the same manner has been used in several ironworks for hammers and other tools, and is reputed to be as hard as iron, without losing the elasticity peculiar to it.

According to the *Kurze Berichte*, lime slaked in a solution of chloride of calcium is used at Strassburg as a fireproof and weatherproof coating for wood.

THE NEW VIENNA EXCHANGE.

The new Exchange of Vienna was opened for the first time in March, 1876. The provisional *Börse*, by the bye, which had served for several years the purposes of the disciples of Mercury, has now expiated to the full the errors of its ways. But a short span of grace was accorded to the old building; no stone remains upon the other,—foundations it never had,—and new buildings, intended for private dwelling-houses, have been reared in its place. This block of new buildings is opposite, in an oblique direction, to the new Exchange in the Schottenring.

We have already given some particulars respecting the exterior with the view we published in a former number, but it will be convenient to recall to mind a few of them. The Exchange was erected at an expense of five million florins; and it is reported that the architect, Herr Hansen, asked for three millions more, in order to use, in place of the brick with which the outside is partly covered, red marble, and, instead of stucco and paint, more expensive products of the plastic arts. But the five millions were the length to which the managing committee,—the requisite money being raised on preference stock in Vienna financial circles,—were inclined to go.

The outside, it is considered, cannot be taken, on the whole, to be a successful garb for an exchange. From the open terrace behind the façade of columns, several arches admit into the vestibule. We obtain a view through the latter, filled with glass, into the interior of the large hall (the subject of our illustration). It is at present the largest for public purposes in Vienna. It occupies the whole centre portion of the building up to the roof, and extends through its entire length, excepting a not very large ante and staircase hall. The great hall is 188 ft. long, 86 ft. wide, and 76 ft. high. At the height of the first story a gallery runs all round, and above this are the windows. There is an aisle on both sides of the great hall on the ground-floor, which opens on to it by round-headed arches. The prevailing colour of the hall is the lustrous grey marble, the columns supporting the arches being of red marble. Those large monoliths are embedded one-third of their bulk in the wall. The ceiling is flat, and is supported by a second row of columns (Corinthian) resting on the gallery. It is painted, and divided into white panels, with blue ground, from which, again, whitish-grey mythical figures appear to rise. The considerable height of the apartment favours the illusion of painting, the plastic forms being hardly missed. The large arches of the narrow sides are filled with glass. It would have been far more effective to have hidden the door-frames in the iron framing, instead of inserting heavy door-posts of wood, with pediment, and leaving this bulky door-framing standing seemingly free and unsupported, as well as interrupting the light. Curiously enough, the architect has filled all his spandrels with Centaurs, Naïads,—in other words, half human, half animal creatures,—in accordance with Greek taste. The native wit of Vienna, never slow, and whose sparkling satire is as proverbial as it is pungent, has already seized upon this extravagance of decoration for its wicked purposes.

When the rich gold lustres and wall candelabra (on festive evenings also a wreath of jets round the gallery) send forth their light, which is reflected in the variegated marble, an imposing effect, a view of rare luxurious grandeur, is produced.

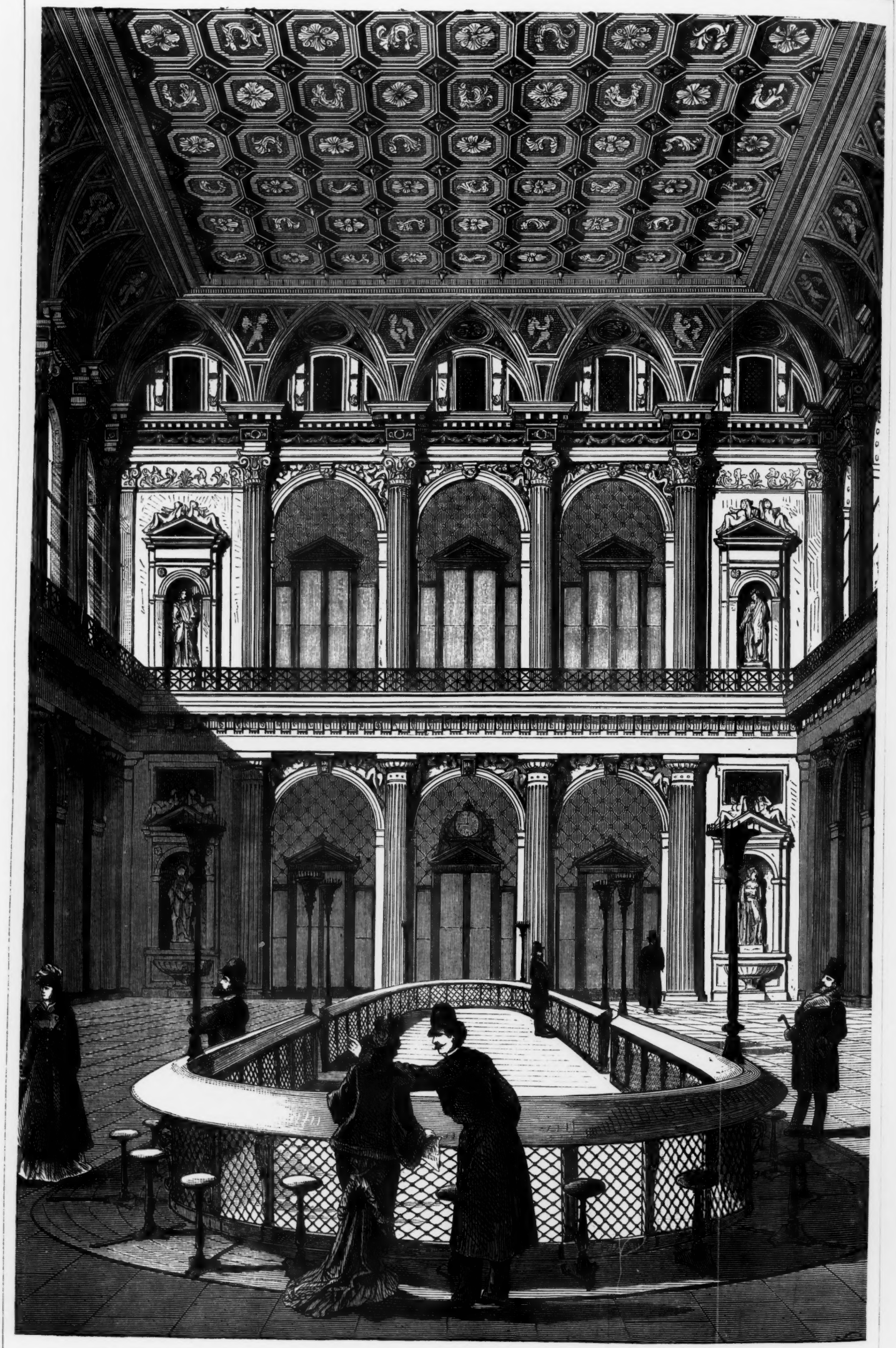
Doors lead from the aisles and gallery into the numerous offices. In the basement are the Produce Exchange and the refreshment-rooms. In the centre of the great hall, in the shape of a narrow oblong, is the "bar" of the sworn brokers. Only the latter are permitted into this sanctum. On their word and their note-book, as we know, depend millions and destinies. Round the "bar" runs a wide step, on which are placed the tabourets or seats (*Stockerl*, a witty Viennese expression for a little stick, perhaps equal to our English "perch") reserved for bankers and other frequenters of the Exchange who pay for them. Those seats may be moved, on the step only, backwards and forwards on a rail. The name of the renter of the seat is fixed in a plate on the writing-desk of the "bar," which much facilitates the transaction of business. There are gas candelabra also on the "bar," increasing the amount of light in the evening.

The eyes are better off in this room than the ears. We know what business hours are on our own Stock Exchange; but the noise on the Vienna Exchange is increased in acuteness by the very Babel of tongues there heard. The bell, which rings at intervals, brings out the acoustic properties of the hall still more strongly. Any one in quest of a "leading paper" finds its place of sale marked by tablets on the wall. Should he be speculating in various shares, he must have good legs, for he will find, with the large dimensions of the hall, plenty of room for exercise; and his nether limbs must be steady, for the floor being of large sandstone flags, he might slip and—come to grief.

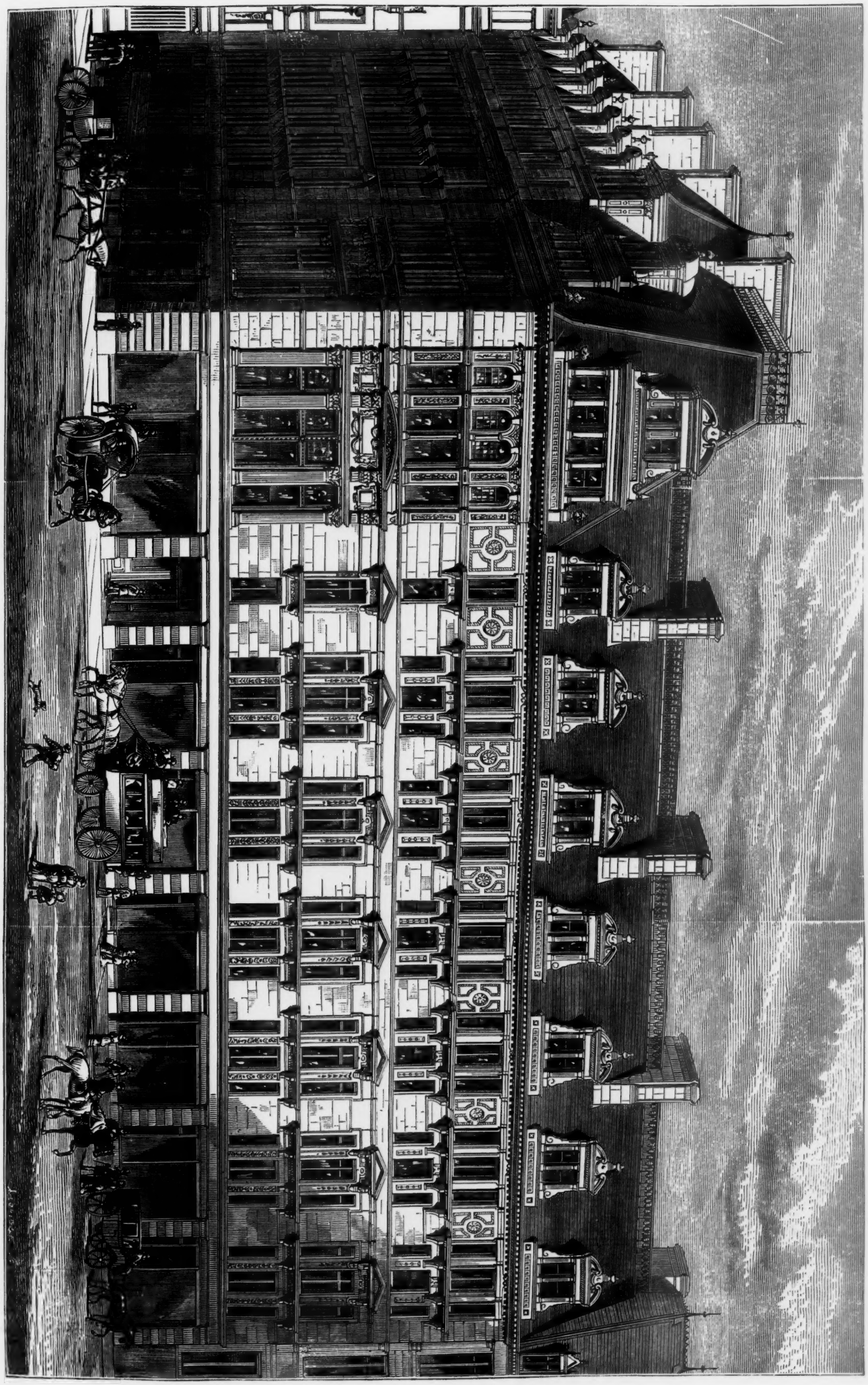
"MURALIS."

The walls of a room in Berners-street, Oxford-street, have been hung with various specimens of a new linoleum product called by its inventor, Mr. Frederick Walton, "Muralis," and which would seem to be a very useful material. It is a mixture of oxidised linseed oil and fibre, and on this, ornamentation in relief is stamped by machinery with the greatest clearness and sharpness of diversified outline. The use of colour in addition is optional, and the patterns may, if desired, be tooled after the first stamping. The effect produced is, according to the will of the designer, like that of carved wood, of embossed leather, of terra-cotta or plaster ornamentation; or, better still, the work may be allowed to assume a character of its own as a subdued and graceful style of ornamentation. Its capacity for resisting blows and abrasions is remarkable. Pieces can, indeed, be cut off from it, with the knife or chisel, and its toughness and freedom from liability to splinter render it peculiarly suitable for any amount of elaboration and improvement by artists after it has once been stamped. But a blow or a cut produces, on the elastic surface, no lasting impression. If it is struck with the sharp end of a hammer-head, a slight indentation will at first be produced; but in half an hour the elastic substance fills up the gap. A piece of "Muralis" has just been taken out of the water after three months' immersion, and is as perfect and sound as when first put in. It would supply a waterproof shield to wood, iron, or other building materials, and afford lasting and beautiful ornament to the structure. For the interior decoration of houses, its warm and comfortable surface makes it peculiarly applicable. As regards price, a handsome dado, 2 ft. high, is sold at the price of 3s. a yard. The pieces for walls are usually about 20 in. wide, and sold at 2s. 8d. a yard. The designs produced on the material depend, of course, on the taste of the manufacturer; those at present exhibited, we are glad to be able to say, are very satisfactory and appropriate.

Tit-tat-to by Machinery.—At a recent meeting of the Franklin Institute, U.S., Mr. F. T. Freeland presented and described a machine, designed and constructed by himself, for playing the game of tit-tat-to. The machine is so designed that the move made by the person playing against it determines that next made by the machine, the latter being accomplished by the simple movement back and forward of two levers, and the most skilful player is unable to win any one of the vast number of variations of which this simple game is susceptible.



THE GREAT HALL OF THE VIENNA EXCHANGE.——Herr Th. Ritter von Hansen, Architect.



PALACE CHAMBERS, SAINT STEPHEN'S, WESTMINSTER.—Mr. Richard Almond, Architect.

PALACE CHAMBERS, SAINT STEPHEN'S, WESTMINSTER.——*Plan of First Floor.*

PALACE CHAMBERS, ST. STEPHEN'S, WESTMINSTER.

In our present number we give to our readers a view of a block of buildings raised by Major John Frederick Wieland, who has, within the last seven years, built seven blocks for trade and office purposes within the City of London, some of which we have already illustrated, and these have involved an expenditure, we understand, including the one now the subject of our engraving, of not less than 600,000*l.*

Palace Chambers has been built from the designs and under the superintendence of Mr. Richard Almond, architect, London. It forms the angle of Bridge-street and Cannon-row, Westminster, and has a frontage to the former of 130 ft., and to the latter street of over 200 ft.

The building, as will be seen, is in the Renaissance style, freely treated. The frontages are of stone, the mouldings and carving being kept flat and delicate. The combination of purposes for which this building is intended is novel and the construction peculiar, and we think our readers will be interested in a description.

As to construction, the great portion of the building facing Bridge-street is carried on gigantic box-girders, which span the Metropolitan District Railway. It may be noted that when these girders were placed in position, they were arched to the extent of 1½ in.; the enormous weight subsequently placed upon them has only deflected them to the extent of ½ in.

The foundations in Cannon-row are at a depth of 30 ft. from the ground level, and in some parts of the land a depth of 43 ft. had to be excavated, and pumps throwing 1,200 gallons per minute were kept constantly at work, night and day, for five months. The whole surface is now one solid bed of concrete, 9 ft. thick, and the superstructure is composed of hard Burham bricks, except the stone parts before mentioned.

The cellars are arched and constructed perfectly fire-proof, as it is the intention to use them as depositories for valuables, and the proprietor reckons that he will be able to give a perfectly fire-proof room, about 5 ft. square and 9 ft. high, for about 5*l.* a year. These rooms will be heated with hot-water pipes, and ventilated into the corridor, where watchmen will be constantly on guard. Thus any one for the small payment of 5*l.* per annum will be able to secure a fire and burglar-proof room, large enough to hold pictures, books, plate, &c., for an ordinary establishment. The revenue to the proprietor from this source will be considerable.

The ground-floor in Bridge-street is devoted to shops, which are now nearly all occupied. The back portions of this floor will be devoted to office purposes. Part of this is already occupied by the Westinghouse Brake Company, who have in operation, on a full-size railway carriage, their continuous brake, which is worked by compressed air, and is open to the inspection of the public at these chambers.

The greater portion of the next four floors is intended for offices, and we notice the Church Defence Institution, the Bilbao Iron Ore Company, Sir Charles Dilke, M.P., and several other influential persons are among the tenants.

A novel feature on the first-floor is a club dining-room, 21 ft. high, and above it a smoking-room, elaborately decorated in gold and colours. These two rooms, commanding a view of the Houses of Parliament, the Abbey, and Victoria-street are carefully finished, the former being in the Doric, and the latter in the Corinthian style of architecture, the dados, doors, &c., being executed in polished walnut-wood, relieved by ebony mouldings. These club-rooms, together with kitchens above, and subsidiary rooms and cellars, are intended for the use of a proprietary club, of moderate pretensions as to subscriptions, but they will be principally useful to the residents in the building, for it is the proprietor's intention to let about 200 rooms on the upper floors for bachelors' residential chambers, at the rate of 50*l.* per room; this, with a small charge for cleaning, valeting, gas, coal, &c., will enable any gentleman to have a West End residence, with the luxurious accessories of a club, including hot baths, at a moderate cost.

There are two lifts, or elevators, rising to each floor; these are worked by steam-power, and are so arranged that if the attendant neglected his duty no accident could happen.

The entire height of the building in Cannon-row is 120 ft. from the foundations, and consists of ten floors.

The corridors, fireproof in construction, are upwards of half a mile in length, of a uniform width of 8 ft., and are laid with encaustic tiles of various designs.

There are pneumatic bells fitted to each room, with speaking-tubes thence to the porter's box and domestic offices. The gas-pipes and speaking-tubes in the whole building are nearly five miles in length.

We congratulate the spirited proprietor, Major Wieland, who is by profession a military engineer (and who has been his own contractor), that no accident to life or limb has occurred at this or any other of his buildings, considering that as many as 1,000 men had been employed at a time, such immunity from accident being mainly due to the excellence of the plant and careful supervision.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

OPENING MEETING, SESSION 1878-79.

THE first ordinary general meeting of the Royal Institute of British Architects for Session 1878-79 was held on Monday evening, in Conduit-street, Mr. Charles Barry, president, in the chair. The minutes of the last ordinary general meeting of Session 1877-78, held on the 3rd of June last, were read and confirmed.

Candidates for Membership.—A long list of candidates for membership was read. The list included seven applications to be admitted to the rank of Fellow, ten to that of Associate, and eighteen to that of Honorary Associate.

New Members.—Mr. George Richmond, R.A., and Mr. L. Alma-Tadema, A.R.A., were introduced to the President, on their attending for the first time since their election as Honorary Associates; and the following gentlemen were balloted for and declared duly elected, viz., as Associate, Mr. F. S. Pilleau, of Buckingham-street, Strand; and as Honorary Associates, Mr. William Calder Marshall, R.A., and Sir Richard Wallace, bart., M.P.

The Library.—The secretary announced a number of donations to the library, including a bequest of upwards of two hundred volumes by the late Mr. C. C. Nelson. A vote of thanks was accorded to the several donors.

The Late Honorary Secretary.—The President said he regretted to have to announce to the members officially the great loss which the Institute had sustained by the death of their friend Mr. Cockerell, who had the happiness which some persons desired of dying in harness, perfectly useful up to the very last moment of his life, and truly beloved by all who knew him. He died quite suddenly, in the midst of a short holiday he was permitting himself to take in Paris, after having been somewhat out of health, although at the time of his death he was apparently in perfect health. In five minutes he was summoned into eternity. His funeral took place in Paris, and the Institute would be glad to know that it was not wholly unrepresented. He died on Monday, the 4th inst., and the information of his death reached London on the morning of Wednesday, the 6th inst. Their zealous secretary endeavoured to find him (the President) and some of the members of the Council, but they were all dispersed. With praiseworthy promptitude, however, Mr. White started alone by the next mail to Paris, in order to attend the funeral of their poor friend, which took place on the following day. Happily, three other members of the Institute were in Paris at the time, and, hearing of the sad event, assisted in representing the Institute at the funeral. Therefore, notwithstanding the suddenness of the event, and the brevity of the interval which elapsed before the funeral took place, the Institute was not unrepresented, or they would all have grieved beyond expression. The genial disposition of their late friend made him numerous friends abroad as well as at home. In the Institute every member was his friend, and abroad, in all societies which he entered, it was the same thing,—certainly it was so in Paris. Some of the most distinguished architects in Paris followed his remains to the grave, testifying thereby their sympathy with the Institute in its loss and their esteem for him personally. M. Duc, the Gold Medallist of the Institute, M. Lefuel, and several other distinguished French architects attended the funeral, and had written to express their sympathy with the Institute.

Professor Donaldson said they had all been touched by the president's allusion to the death of one whom they honoured and loved so much as the late Mr. Cockerell. Their deceased friend inherited a great name. The son of a man of many virtues and high attainments, he worthily maintained the name he bore. By his genial manners and his artistic talent, and by the way in which he carried out the various works he was called upon to execute, he had attracted to himself the esteem of all who knew him. The members of the Institute had also been much touched by the kindly sympathy shown by French architects in attending their late friend's funeral, and he begged to move a resolution to the following effect:—"That the Royal Institute of British Architects has learned with extreme gratification of the courtesy of M. Duc and MM. Lefuel and Vaudremer, honorary and corresponding members of this Institute, in attending the recent funeral of its lamented foreign correspondent, Frederick Pepys Cockerell, esq., in Paris, and desires to record its appreciation of this act of kindness and sympathetic regard for his memory."

Mr. William White, F.S.A., said that as one who had been privileged to be present at Mr. Cockerell's funeral, he begged to second the motion.

On being put, the motion was carried unanimously.

Architecture at the Paris Exhibition.—The secretary then read the report of the Institute Committee on the Paris Exhibition, with its appendix,—a very interesting document.

Professor Donaldson, in reference to the letter of M. Lefuel contained in the appendix, said he thought the Institute ought to recognise so very complimentary a public document emanating from their professional brethren in Paris. It was impossible for English architects to receive such an expression of good will on the part of their professional brethren in Paris without being conscious of the cordiality with which they had been met, and without recognising the desire of French architects to render honour to the art of this country. This cordiality had been manifested by French architects not only in the discharge of their public duties, but in private and social intercourse, and he, therefore, begged to move a resolution to the following effect:—"The Royal Institute of British Architects begs to offer to its French *confrères* of the international jury a cordial acknowledgment of the reception with which they honoured personally the English architects who visited Paris, and to thank them for the ample justice done to English architectural productions, which were exhibited under the most favourable circumstances possible."

Mr. Whichcord seconded the motion, and it was carried *nem. con.*

The President's Address.—The President then proceeded to deliver his opening address, which we print *in extenso* on other pages.

The reading of the address concluded,

Mr. T. H. Wyatt said: As one of your predecessors in that chair, sir, I must ask you to allow me to propose a vote of thanks to you for the remarkably interesting and industrious address which you have just read to us. You have pointed out some of the difficulties that have been encountered in the administration of the Institute during your presidency, and I venture to think that you have, by your zeal and industry, conquered those difficulties in a remarkable manner. In passing, I would stop for one moment to suggest that as in future our presidents will only occupy the chair for two years, it might be well, perhaps, for each of them to give one long address, such as you have read to us this evening, at the commencement of his term of office, and at the close of that term to give a brief summary of the events that have happened during his occupancy of the chair. Doubtless the increase of members has been satisfactory. I attach immense importance to the accession of our Honorary Associates, and I am sure that the benefit we shall ultimately derive from their knowledge, influence, and presence will be very great. You said, sir, and I think very wisely, that it would be inexpedient to attempt any elaborate architectural alterations in these premises. I think that is a feeling which will be very generally shared. Let us hope that before long we may be able to get a larger amount of possession of these premises, or else obtain premises better suited to the increased prosperity and enlarged necessities of the Institute. You have given us a most melancholy list of deaths. We have lost some honoured names,—Scott, Smirke, Nelson, and last, not least, Cockerell. That Mr. Cockerell should have passed away so suddenly and so unexpectedly is a particularly painful circumstance. He was, as Professor Donaldson has said, the son of a most honoured member,—our first professional president, who was a man of great knowledge and refinement, and his son never for one instant did dishonour to that name. On the contrary, it was known to us all how valued he was, and comparatively young as he was he had secured the confidence, regard, and even the affection of his clients. As to the Paris Exhibition, I think there is no one here, sir, who does not feel the value of your services. How great the sacrifice of time, and how great your labours have been, will be appreciated by all, but especially by those who have been engaged in similar duties. We owe a deep debt of gratitude to you. On the subject of competitions and conferences, I most cordially concur in your remarks. They accord most fully with my own feelings. As to your hopes for the prosperity of the Institute, it is hardly necessary for me to say one word. There is no professional man here who does not share those hopes, and there is no class of Associates so illiberal and ungenerous as to refuse to re-echo your sentiments. I beg to move that a cordial vote of thanks be given to the President for his interesting and able address, with our best wishes for his prosperity when he leaves the Chair of the Institute.

Mr. F. Leighton, President-elect of the Royal Academy, who was very warmly cheered, said:—Mr. President,—The members of the class to which I have the honour to belong, viz., the Honorary Associates, will, I am sure, esteem it a very great honour that one of their number has been called upon to second the motion of my friend Mr. Wyatt, that the thanks of the meeting should be offered to you for your most remarkable address. I feel myself very much honoured that the command to do so should have been laid upon me, and I will perform the duty with the utmost brevity, partly because of the lateness of the hour, and partly, and chiefly, because I feel that in the lucidity of its statements and in the breadth and elevation of the views which it embodies, and especially also in the extremely satisfactory nature of its general tenour, your address stands self-recommended, and will be accepted with gratitude and thanks without my advocacy. You have unfolded before us, sir, a picture of prosperity, of growth, of vitality, of beneficent and enlightened influences at work, which must be highly gratifying to all the members of this Institute, and I would beg them to believe that it is also a very highly gratifying picture to all who look on at the working of this Institute with interest and sympathy from the outer precincts, as I do myself. But the picture you have drawn has not been unchequered: it has its dark shadows and contrasts, and in the too-long roll of the obituary you have recorded there are several names which I personally cannot hear without emotion. There are the names of two honoured members of the Academy to which it is my chief pride to belong, and the name of one of the dearest and truest friends I ever had,—a man who had the rare gift of winning, and the yet rarer gift of retaining always the affections of all those who had the privilege of knowing him, and whose loss will be irreparable to those to whom he was dear. It would be impertinent in me if I were to attempt to touch on any portions of the address which deal with the special workings of the Institute and with its own peculiar interests; but, sir, you touched upon one or two points of general interest, upon which you may, perhaps, allow me to say a word. You alluded to the ancient obelisk which has lately been erected,—I had almost said "mislaid,"—on the parapet of the Thames Embankment, and I embrace with joy the opportunity of expressing my hearty concurrence with your concern at its latest vicissitude. That venerable monolith is an old friend of mine. I have had the privilege of seeing it on more than one occasion slumbering in the sands of Egypt by the margin of waters bluer than are those of Father Thames. I saw it again, cased in the *Cleopatra*, ploughing the blue waters off the coast of Morocco, and I have seen it again, alas! seeking for the sun in vain in its last home, showing, to ages to come, what may be done by British munificence and patriotism, and by the energy, resources, and skill of British engineering; and showing also how a monument may be placed in such a manner as to defy and set aside all the eternal fitnesses of things æsthetic,—adorning nothing, emphasising nothing and by nothing emphasised, placed, as it were, parenthetically between two highways, perhaps the finest of their kind in the world, but neither of them leading up to it, but rather hurrying past it. You alluded, sir, to competitions. I am in harmony with you also as to that subject. I share your very grave doubts as to whether a competition is the best means of ascertaining the person to whom one should entrust, and from whom we should expect, a work of art,—whether, in fact, competitions always result in "the survival of the fittest." In your address, sir, there is one point as to which I have something to add beyond what you have told us, viz., as to the Exhibition in Paris,—an exhibition in which, by the ungrudging consent of the European artistic public, British art won no common meed of honour and distinction. You have dwelt with most justifiable pride on the large share of that honour which justly accrued

to British architecture, but you have not told this Institute of the golden opinions and high esteem which you, sir, won in the discharge of your duties on that occasion. I have had the honour, gentlemen, of serving with your President on the Royal Commission for the Paris Exhibition, and I have had the gratification in Paris of hearing M. Ferstel, president of the international jury on architecture, speak in high terms of Mr. Barry's services, and I am in a position to testify to the untiring zeal, to the genial catholicity, and to the admirable tact which made him so valuable and so influential a member of the jury, and which, if I may be permitted to judge from what I have heard, have made him so admirable a president of this Institute. My sense of these qualities of your president very naturally greatly enhances the pleasure with which I venture to second the vote of thanks to him for his address, moved by your former president, Mr. Wyatt.

The motion was put to the meeting by Mr. Wyatt, and heartily agreed to.

Mr. Barry briefly replied, and announced that the next meeting would be held on Monday, December 2, when Lieut. Conder, R.E., will read a paper on "The High Sanctuary at Jerusalem."

"THE GAIETY" RESTAURANT, STRAND.

After having been closed for a long time for re-construction, the Gaiety Restaurant has been re-opened. A detailed description of the extensive structural alterations which were in progress appeared in the *Builder* several months ago, but it may be added that a handsome new entrance has been formed in the Strand, which serves as the principal approach to the ground-floor portion of the restaurant, as well as to the boxes and stalls of the Gaiety theatre. Thd mosaic pavement in this entrance was laid by Messrs. Burke & Co., of Newman-street. The three fine apartments in the restaurant forming the basement, and the ground and first floors, are of uniform size, being 100 ft. in length by 33 ft. in width, with an uninterrupted view from one end to the other, columns being altogether dispensed with, and the several floors supported by iron girders thrown across the entire width of the respective apartments.

The interior fittings and decorations are of an elaborate character, and have been carried out by Messrs. Simpson & Sons, of the St. Martin's-lane Works, from designs furnished by Mr. Verity, the architect engaged. The ornamentation includes a considerable surface of their tiles. These tiles are distinguished by their inventors, or rather sole makers, as "art" tiles, not because any claim is laid to superior artistic excellence, but in contradistinction to encaustic, majolica, and other tiles, which are merely produced by mechanical processes, whilst those here used are painted by hand. It must also be mentioned that an important feature in these tiles is that they are done under glaze, and in many instances their effect is heightened by subsequent enamel painting. It is hardly necessary to eulogise the luminousness, depth, and brilliancy which result from this process, as every-one who has been enabled to inspect its results at the Criterion, the Mansion House, the Holborn Viaduct Restaurants, and elsewhere, will already be well acquainted with their merits. In modern times, Messrs. Simpson & Sons have been the first to manufacture tile paintings on a large scale for surface decoration, and in so doing they have not only followed an example which dates back into the remotest antiquity, but they have revived a species of ornament more in harmony with the strictest principles of art than any other species of wall decoration extant. In rendering it possible for the ordinary middle-man to decorate his house with tile paintings on the same scale that those well endowed with this world's goods may ornament their halls and saloons with expensive frescoes, they realised a dream of Della Robbia. The walls of the buffet,—a handsome and imposing room,—have been covered at intervals with tile paintings. The somewhat severe character of much of the execution harmonises thoroughly with the architectural characteristics of the room, which are in the style of the Italian Renaissance. This is especially the case with the larger paintings ornamenting the upper part of the room. These represent various operations in connexion with agriculture, and some of the subjects merit high praise. The ceiling is also the work of Messrs. Simpson & Sons. The *motif* of the design bears evidence of its having been inspired by associations belonging to the locality, and refers to their histrionic as well as to their gastronomic character, for we find figures with scrolls, bearing quotations from Shakspeare, and tablets, inscribed with the names of dramatic authors and renowned actors, in combination with representations of fish, flesh, and fowl, and other details purely ornamental. The ceiling is executed in what is called Kalsomine painting, a species of distemper which possesses the advantage of being washable. The stained-glass window screens also come from the works in St. Martin's-lane. The main dining-room, on the first floor, is very artistically painted and decorated, and does Mr. Verity credit.

The artist employed here and elsewhere is Mr. Edwin P. Turner.

The entire outlay, including the structural alterations, fittings, and decorations, is estimated at something like 25,000*l*. The general contractors are Messrs. G. Smith & Co., of Pimlico.

LIFTS AT "THE GAIETY" RESTAURANT.

A very complete system of lifts has been fitted up by Messrs. Archibald Smith & Stevens, of Leicester-square (whose firm, we believe, has been established as engineers nearly a century), comprising a hydraulic passenger and goods lift, a continuous lift for food and kitchen service, four hand-lifts, for distribution of food and wine throughout the building, and one small special lift for carrying two wine-bottles only. The most deserving of attention is the first-named, which has in connexion with it a small pumping-engine, which forces water into an accumulator, or loaded reservoir, under a heavy pressure.

Beneath the lift is fixed a horizontal cylinder of great strength, containing a sliding-ram, carrying at its head four wheels, ranged side by side; at the back of the cylinder are four similar wheels, and round the whole system is wound, in a similar manner to a rope in pulley-blocks, a chain, which is continued up the lift-shaft over a pulley at the top, down, and finally attached to the cage. When the cage is down the ram is "home" in the cylinder. To make an ascent, water from the loaded reservoir is admitted to the horizontal cylinder, and forces out the ram, the action of which is to lengthen each coil of chain at the expense of the portion between the head wheel and the cage, the result being the ascent of the latter.

The control of the flow of water is held by the cage itself, and it automatically stops at either limit of its journey, and does not, therefore, depend for safety upon the attention of the man in charge. A further safeguard is provided in the shape of a device by which, should the chain or any of the suspending gear break, strong springs attached to the cage are released, and thrust forward arms, which, by engaging with suitable recesses in the guides, suspend the cage at any point.

The automatic action of the pumping-engine is very beautiful; it continues pumping until the reservoir is full, and then stops without attention; the moment any water is withdrawn and the load commences to drop, the engine as promptly recommences pumping, and works until the accumulator is again full.

The "Continuous Lift," which has been popularly, though not reverentially, called "Jacob's Ladder," consists primarily of two endless chains, with long links passing over wheels at top and bottom of the lift-shaft, and carrying between them a number of cages for the reception of luggage; the wheels at the top, and consequently the chains, are caused to revolve by means of a "West" six-cylinder engine; the cages are thus kept continuously travelling down the front and up the back of the shaft, and are so speeded as to allow of their being loaded or unloaded while passing between the two floors. The small "West" engine used as a motive power is a prodigy among steam-engines; it stands on the top of a 14-in. wall, measures only 18-in. by 12-in., but develops three horses' power.

Builders' Benevolent Institution.—An election of pensioners on the funds of this charity will take place at Willis's Rooms, St. James's, on Thursday next, the 28th instant. There are vacancies for two men and two women, there being three candidates of each sex.

NEW BUILDING BYE-LAWS FOR LONDON, UNDER 41 & 42 VICT., CH. 32.

Sir,—I am sure you will encourage expression of opinion as to the new Building Bye-Laws. By the provisions of the Act passed last Session, two months are given to non-official persons in which to make themselves heard. It is, therefore, everybody's plain duty to say what he has to say at once. We have no reason to fear that the spirit of Hadrian has descended to the members and officers of the Spring-gardens Parliament. We may, without exordium, or apology, or dread of the fate of Appollodorus, start discussion at once. You may, perhaps, be willing to direct the use of paste and scissors, and to send a neat collection of the correspondence to the principal Secretary of State who is to confirm the bye-laws, or (as I presume) to doctor them if he does not like them, before they will be valid. It is desirable that they should express an irreducible minimum,—in terms concise, unambiguous, and sufficient; and the able official document which has been printed is very near one's ideal. But frequent tinkering is properly sniffed at by all public bodies, and much disliked by practical people. Let us, therefore, take heed how we, either with unconcern or without debate, allow burdens to be bound upon us grievous to be borne, or weakly shrink from sustaining the Board in grappling with evils which it is now authorised to control. The principle of making the provisions of the bye-laws an irreducible minimum will, however, be pretty generally accepted. Few people consider it desirable that any public authority should help proprietors to obtain superior work. To prevent the worst class of building from going below a certain point is all that can wisely be aimed at. Precision in the limitations of the bye-laws, so as to leave very little to the discretion of any one, will also fall in with the wishes of many people. The discretion of that admirable body of public servants, the district surveyors of the metropolis, in interpreting and enforcing building-laws, should meet with due honour. Let it be understood that district surveyors might in many cases be made uncontrolled despots, and prove very good specimens of the order. But in practice most of us would be better satisfied to give despots and district surveyors very definite instructions, and to let everybody else know what those instructions are; and probably the class best of all satisfied with such an arrangement will be the district surveyors themselves.

As to Foundations and Sites of Buildings.

Paragraph I. of the suggested Bye-laws:—"No house, building, or other erection shall be erected upon any site or portion of any site which shall have been filled up or covered with any material impregnated or mixed with any fœcal, animal, or vegetable matter, or which shall have been filled up or covered with dust, or slop, or other refuse, or in or upon which any such matter or refuse may have been deposited, unless and until such matter or refuse shall have been properly removed, by excavation or otherwise, from such site. Any holes caused by such excavation may be filled in with hard brick rubbish, or other similar material."

a. "Site" is defined in the 14th section of the Act in such a way that the bye-laws cannot control anything outside the area of the building. This was, no doubt, intentional, and may have been prudent; but it will apparently make it impossible to compel people to clear away foul rubbish from the spaces round about buildings. Therefore, instead of "shall be erected upon any site or portion of any site," &c., must we not read "upon any site, any portion of which shall have been filled up," &c.? Some regret will perhaps be felt that it will often be impossible to compel the removal of any considerable depth of foul matter within the area enclosed by the walls of a house, building, or other erection; for the lowest level of a site is by section 14 "the level of the bottom of the foundations," and the bye-laws can only deal with sites, and not with the ground below them.

b. Is not "vegetable matter" too general and too vague? Would fagots used in making a temporary road, would the straw from a mass of old tile roofs, &c., call for the "proper removal by excavation or otherwise" of the material with which they had been mixed? Ought not the clause to specify that matter must be injurious in some way beyond the mere fact of its belonging to the vegetable kingdom?

c. Why is "dust" an unfit material for filling up a hollow site,—dust, pure and simple; for

what is commonly known as dust is described under "slop or other refuse"? Because particles of matter happen to be fine and dry, must they necessarily be deleterious? No one must overlook the fact that roads are frequently several feet above the surfaces of sites, and that filling them up is an anxious matter for small owners of property, so that the temptation to make ground "a shoot" is very strong. Why corrupt them by supplying to *Mephistopheles*,—in the shape of an injudicious speculating builder,—words in the bye-laws fit for being carped at?

d. Why not simply, "removed from such site"? Is not "by excavation or otherwise" superfluous?

e. Why stipulate for the filling in of "holes caused by such excavation with hard brick rubbish, or other similar material"? Would not material as good as the natural surface of the site be good enough? Or why not, in strict logic, stipulate for all hollow sites being filled up with hard brick rubbish, or other similar material, which would be going a very long way in settling on a minimum?

f. Indeed, a deficiency in the tone of this paragraph seems to be that "filling-up" is treated a little cavalierly. Hollow sites ought certainly to be considered objectionable, and filling-up to be considered a desirable thing. No considerable dead space should be left under the wood floor of any dwelling-room. Such a space is probably more or less damp, a reservoir for bad and cold air, a dirty, dusty hole, and a source of danger when timbers begin to fail, and life and limb may be menaced. It might have been desirable to provide that no greater distance than 2 ft. should be left between the finished surface of any wood floor and the top of the concrete layer; but it seems doubtful whether this could be done under the powers given by the Act, for a "site" terminates at the level of the base of the walls, which, by Sec. 3 of the 1855 Act, means the course immediately above the footings.

Paragraph II.—"The site of every house or building shall be covered with a layer of good concrete, at least 9 in. thick, and smoothed on the upper surface."

a. Nine inches seems a great deal as a minimum thickness. The intention of the layer is to seal down emanations from the subsoil, to make the space under floors neat and dry, and to give a good bed for sleeper-piers and for pavements. In very good work, a 6-in. layer has frequently answered the purpose, and a 4-in. layer has been substituted on occasion. How would it be to make 5 in. the minimum?

b. This layer might be a little superfluous, where a hollow site was covered with brick or stone arching, or heavy flags supported on walls or piers. Of course, however, it would do no harm.

c. Why not "house, building, or other erection" here and in the next paragraph, as in sections 14 and 16 of the Act, and elsewhere in the bye-laws?

Paragraph III. "The footings of the walls of every house or building shall be laid on a bed of good concrete, not less than 12 in. thick, and projecting 6 in. on each side of the lowest course of footings of such walls."

a. This provision should be steadily debated. Is lime concrete so much better than a bed of good gravel, that the gravel must necessarily be cut out in order to put the concrete in its place? Is a 12-in. layer of lime concrete sufficient for the lightest walls of dwellings (9 in. in thickness for a height of 25 ft.)? On shaky subsoils it would obviously be too little, and, unfortunately, no one concerned in erecting the lowest class of buildings has interest enough in his work, to go a step beyond what the law compels; so that this provision will frequently be a less effective weapon in the hands of a district surveyor than 1st schedule, Preliminary, Rule I. of the 1855 Act. By that rule the efficiency of "foundations" is settled by the judgment of the district surveyor in each case. Besides, is not something more elaborate than the suggested bye-law required? Thus,—Except in cases where the laying of footings on the solid ground shall be approved by the district surveyor, and except where special foundations are used,—the footings, &c. (much as in the suggested bye-law); such concrete to be — in. thick for walls — ft. high; — in. thick for walls — ft. high, &c. (giving thicknesses for different heights). Where piles have been driven, and proper pains taken in forming special foundations, the concrete might be worse than useless.

As to Paragraph IV., dealing with the manufacture of concrete, something might be said about proportions, and about "hard materials" being approved by the district surveyor instead of by "the Board," &c.; but I must not do it in this number. With your permission I will say something about the other bye-laws at another time. C.

ANOMALIES IN ARCHITECTS' PRACTICE.

QUANTITIES.

Sir,—The law with respect to Quantities is not so ill-defined as "C.," by his rather vaguely-worded letter, would lead us to believe.

Any person who does work for, or in expectation of, fee or reward, is bound in the performance of that work to use ordinary skill and care, and is responsible to those who pay him, or from whom he has proper expectation of payment, for any loss incurred by them, being the direct consequence of want of proper skill or care on his part.

Now, who is responsible for the payment of the quantity surveyor's fee? Upon the answer depends the reply to the question, To whom is the surveyor responsible for lack of skill?

It may be premised that an architect is *primâ facie* not a principal, and in the absence of any express agreement or circumstances to show to the contrary, he is, in the matter of the employment of a quantity surveyor, only the agent of the owner.

When an architect is employed, and is empowered to obtain tenders for a building operation of any considerable magnitude, he is impliedly authorised to contract, as agent for his employer, with a surveyor to take out the quantities. On the contract thus made with the quantity surveyor the employer is liable. But if a tender be made and accepted, and the works proceeded with, the liability will shift, and the contract will then be taken to subsist between the builder and the surveyor. In these cases the surveyor is not at any time the agent of the owner; he is, firstly, the owner's servant, and afterwards the builder's.

But in some cases, as of public Boards, the owners expressly agree with the quantity surveyor that they will themselves pay him for his services. He is then the owners' servant only, and does not at any time become directly responsible to the builder, unless he has so expressly agreed with his employers. In this case, if the owners issue the quantities themselves, or through their architect or other agent, without express repudiation of a guarantee of their correctness, they, no doubt, become liable to the builder for inaccuracies; but they have their remedy against the quantity surveyor if his want of skill should have caused them any loss. But when owners adopt this exceptional course of directly employing a quantity surveyor themselves, and paying him whether a tender is accepted or not, they sometimes stipulate that the surveyor shall enter into a bond to become responsible for errors of omission to any builder whose tender they may accept, and, on the other hand, there is no doubt that he is responsible to his employers for loss incurred by them in consequence of errors in the opposite direction.

When the architect acts in a double capacity, and takes out the quantities himself instead of employing a separate quantity-surveyor, the responsibilities are still well defined. He cannot, in the absence of express agreement, recover his fee for quantities against the owner: he is then architect for the owner and quantity-taker for the builder,—the servant of both. If by express agreement the owner is to pay the architect for the quantities, the owner (unless he stipulates expressly to the contrary) becomes liable to the builder for loss in consequence of errors therein, and the architect in his turn is responsible to his employer; but upon the owner being sued, he could make the gentleman who acted as his architect and quantity-surveyor co-defendant.

Our authorities for the above are "A Legal Handbook for Architects" (Jenkins & Raymond), reviewed in your 1874 volume; Moon *v.* The Guardians of Witney Union (3 Bing., N.C., 814,—cited in Gwyther *v.* Gaze, Queen's Bench, Nisi Prius, 1875); Scrivener *v.* Pask (L.R., 1 C.P., 715); Waghorn *v.* Wimbledon Board of Health (Queen's Bench Div., Nisi Prius, 1877). See also *Law Times* on "Agency," 22nd April, 1876, and Hill *v.* Reynolds (County Court case, *Builder*, p. 300, March, 1877).

A. & C. Harston.

THE PROFESSION OF THE SURVEYOR, AND RECENT LEGISLATION.

INSTITUTION OF SURVEYORS.*

One very interesting event has occurred during the recess of your sessional year. I allude to the invitation extended by the President of the Central Committee of the Surveyors (Géomètres) of France to send representatives to the International Congress of Surveyors to be held in Paris in July last. The Council accepted this invitation, and appointed a deputation, who attended the Congress accordingly. A report of the proceedings of the Congress having been printed for circulation among our members, it would be superfluous for me to refer to them in detail. I will, however, make a few remarks on one or two important subjects discussed. One was the expediency of establishing a permanent International Congress or Committee of Surveyors, with a view to develope and spread the knowledge of geodesy, and the best methods of surveying and valuing landed property. The Council will, doubtless, consider this proposal in all its bearings, and report to a future meeting the course which it may recommend the Institution to pursue. Another subject was whether it is expedient that the Government of each country should enact that surveyors should hold diplomas of competency. This gave rise to much discussion, and a resolution affirming the principle was carried unanimously. It will be seen that the question bears upon that to which I have already alluded, of an examination for membership in this Institution. An official examination by the Government is one thing, and a test examination for membership in this Institution is another; and whilst I doubt whether the former is practicable, or even desirable in this country, I think the latter is worthy of attainment both in the interests of the profession and the public. As some recognition of the cordial and courteous reception accorded by the Central Committee of French Géomètres to the deputation, the Council has asked you to confer upon the president and vice-president, MM. Lefevre and Ducaille, the honorary membership of this Institution.

The legislation of the last session of Parliament was productive of several measures affecting the agricultural interest.

Of these I will first refer to "The Highways and Locomotives (Amendment) Act, 1878." Section 7 of this Act enacts that, after the 25th of March, 1879, the expenses of keeping in repair the highways of each parish within their district shall be deemed to have been incurred for the common use or benefit of the several parishes within their district, and shall be charged on the district fund. The Highway Board may, however, with the consent of the county authority, modify this provision in certain specified exceptional cases. The maintenance of the highways by a highway district, instead of by individual parishes, appears to me to be a measure calculated to promote efficiency, economy, equality of cost, and simplicity in management. The 13th and 15th sections make an exceptional provision for the maintenance of "main roads,"—that is, turnpike-roads which have been "disturnpiked" since the 31st of December, 1870; and roads which are a medium of communication between great towns, or a thoroughfare to a railway station, or otherwise. In these cases, with the approval of the county authority, one-half of the expense of maintenance may be charged upon the county rate. The 23rd section provides for what is called "extraordinary traffic," and enacts that where, by a certificate of their surveyor, it appears to the authority liable to repair any highway or main road that, having regard to the average expense of repairing highways in the neighbourhood, extraordinary expenses have been incurred by such authority in repairing such highway, by reason of the damage caused by excessive weight passing along the same, or extraordinary traffic thereon, such authority may recover in a summary manner from any person by whose order such weight or traffic has been conducted the amount of such expenses as may be proved, to the satisfaction of the Court having cognisance of the case, to have been incurred by such authority by reason of the damage arising from such weight or traffic. This provision appears to introduce a new principle into the incidence

* From the opening address by Mr. William Sturge, president, at the ordinary general meeting held on Monday, November 11th.

of local taxation. Hitherto the measure of contribution by each individual has been the rateable value of the property in his occupation. Now he will be liable to pay in addition for any extraordinary traffic he may bring upon the roads. The landowner who builds a mansion or a homestead, or who has a fall of timber; the speculator, who covers a suburban district with villas, and thus increases the wealth and prosperity of the neighbourhood; the contractor for public works, will be liable to pay large amounts for excess over average traffic on the certificate of the surveyor. I cannot but think this provision calculated to check expenditure in improvement, to be fruitful of litigation, and to be of doubtful expediency.

I have next to refer to the Public Health (Water) Act, 1878. Section 3 provides that it shall be the duty of every rural sanitary authority to see that every occupied dwelling-house in their district has, within a reasonable distance, an available supply of wholesome water, sufficient for consumption and domestic use. When it appears to the rural sanitary authority, on the report of their inspector of nuisances, that any occupied dwelling-house has not such supply, and that the same can be provided at a reasonable cost, not exceeding a capital sum the interest on which, at five per cent., would amount to 2d. or 3d. per week, and that the expense of providing the supply should be paid by the owner, the authority may take proceedings to compel the owner to afford such supply. Section 4 gives the owner power of appeal on certain specified grounds. Sec. 6 forbids the occupation of houses until the owner has received from the sanitary authority a certificate that an available supply of wholesome water has been provided within a reasonable distance. Section 7 gives the sanitary authority and their officers right of entry on any dwelling which they have reasonable ground for believing has not a proper supply of water. These very summary powers are doubtless necessary to ensure in all cases the blessing of a pure and wholesome supply of water. In many districts the carrying them into effect will be attended with great difficulty; and the satisfactory working of the Act will mainly depend on the judgment and discretion of the medical officers and inspectors appointed by the sanitary authority. Whenever practicable, I think the supply of water to villages and small towns should be undertaken by the sanitary authority, rather than be left to individuals, except in cases where the town or village principally belongs to one owner who can deal with the question in a comprehensive way.

And here I would make a few remarks on the practical working of the Sanitary Acts. Admitting to the full the necessity of very summary powers for the protection of the public health and the abatement of nuisances, I must protest against the manner in which the Acts are in some instances carried out by the inspector of nuisances. Some of these officials appear disposed to perform their duties in a harassing way, and to be utterly regardless of the expense to which they put owners of property; and I could mention several cases in which a disposition has been shown to strain the powers of the Acts beyond their legitimate object. Although it is true that the owner may complain to the sanitary authority and afterwards appeal to quarter sessions against any order made upon him, yet appeals entail so much trouble and expense that the remedy is almost as bad as the disease.

After briefly referring to "The Weights and Measures Act, 1878," Mr. Sturge went on to discuss recent legislation in its bearings upon agriculture, the principal measure commented upon being "The Contagious Diseases (Animals) Act, 1878." He quoted the Board of Trade returns to show that during the last ten years, whether from cattle disease, or from drought, or from demand overtaking supply, or, as is probably the case, from a combination of these causes, the number of cattle and sheep has not kept pace with the increase of the population, and up to the end of 1877 the foreign supply had barely made good the deficiency. He then proceeded to review the present position and prospects of agriculture in reference to foreign competition, incidentally remarking that although the construction of railways and other public works proceeds on a much smaller scale than it did some years ago, yet the maintenance of way of existing railways absorbs large numbers of men who would otherwise be employed in agriculture, and helps to maintain the rate of wages. These facts point to the necessity of an extended use of labour-saving apparatus, the steam thrashing-machine, the reaping-machine, the mowing-machine, the elevator, and the steam plough. Brain must, as far as possible, supply the place of sinew, in order to enable us to cope with foreign competition by reducing the cost of production. Mr. Sturge went on to say that the combined effect of the succession of adverse seasons, of the price of labour, and of the increasing supplies of food from abroad, has been to cause great depression among agriculturists, and farms which would have readily commanded tenants a few years ago are now let with difficulty, and are even left on hand. What hope is there of an end to this state of things, and how is British agriculture to surmount its present difficulties? I fear that I can say little that is new in answer to these questions. The laying down of inferior arable lands to pasture will probably be more extensively carried out. The extent to which this change has progressed in the nine years from 1869 to 1877 is shown by the Board of Trade returns. During that period the land cultivated with cereal crops in Great Britain decreased from 9,758,000 acres to 9,210,000 acres, or about five per cent.; and in Ireland from 2,218,000 acres to 1,862,000 acres, or about 15 per cent. The extent of land under green crops did not materially vary; but the extent of permanent pasture apparently increased in a greater ratio than the decrease in cereals,—a discrepancy probably due to defective returns. Another resource, especially in the great corn-growing districts, is high farming by the aid of the increased consumption of feeding stuffs and the use of artificial manures; and at the same time of labour-saving apparatus, with the view of increasing the gross produce of the soil relatively to the cost of labour, for it is well known that the expense of labour is smaller in proportion to a large than to a small produce. . . . . For an improvement in the seasons we can but trust in Providence. Cycles of good and bad seasons have ever recurred, from the time of the seven plenteous years and the seven years of famine in Egypt until now. So also has it been with commercial prosperity and adversity. We have recently experienced an unusual succession of adverse seasons and a protracted time of commercial depression. But,—

"The darkest day,
Live till to-morrow, will have pass'd away;"

and let us hope that, according to all past experience, brighter days are in store for us.

But, at all events, agriculture, like other undertakings, must be progressive. Commerce requires from time to time new fields, and Manufacture new products, improved machinery, and new markets. So it is with agriculture. Be it our endeavour, as land-agents, carefully to watch the signs of the times, and to promote such improvements and such practical measures as may conduce to the welfare of all interested in the ownership and occupation of the soil.

I will conclude by mentioning some of the subjects on which papers will probably be read during the session, viz.:—The Use of Sewage by Farmers; Hopgrowing; the Rating of Railways; Contributive Value; Dilapidations; the Disposal of the Sewage of Paris; Land Tax. I need hardly impress upon all connected with the Institution,—our members especially,—the great importance of keeping up, session after session, the supply of well-prepared papers on subjects of interest to the profession.

Mr. Squarey moved a vote of thanks to Mr. Sturge for his address.

Mr. Philbrick, Q.C., in seconding the motion, said he had been struck by the President's allusion to the comparatively small number of students attached to the Institution. He trusted that the present year would see a large addition to the number of their students. The President had referred to the difficulty of finding technical education and instruction in the days when he was a student, but probably one reason why some of the men now at the head of the surveyor's profession were so "strong" in their vocation was to be found in the fact that they were "self-made men,"—men who had had to rely mainly upon their own exertions. Still, he could not help thinking that had those men been able to avail themselves of the advantages now available to those entering the profession, their career would have been considerably eased to them, and the profession as a whole, and the public generally, would have been greatly benefited. He rejoiced in the prosperity of the Institution, to which it should be the pride of all who called themselves surveyors to belong.

The motion having been put to the meeting, and carried,

Mr. R. C. Driver said,—We are all familiar, I think, with the fact that twenty years' user of land without disturbance,—twenty years' occupation without payment of rent,—has hitherto held good as against any owner; but you may not all be aware that that period has been limited, by an Act which will come into operation next year, to twelve years. It is very important that those of us who have not read the Act should do so, and then make it our business to go round the various estates for which we are interested, in order to see that no encroachments exist, or otherwise pieces of land may be lost. There are other limitations in the Act which it is important for us to be cognisant of.

Mr. Philbrick said the Act in question was called "The Property Limitation Act," and was passed in 1874.

TECHNICAL EDUCATION.

BY J. C. BUCKMASTER.

The Paris Exhibition of 1867 gave rise to a general demand for Technical Education. The report of the British Commissioners and the working men sent over by the Society of Arts were full of lamentations on the superiority of all foreign work which involved a knowledge of art. The subject is again before the public. Committees, City companies, and newspapers are at work, and it is hoped their deliberations will result in something permanent and practical. At present there appears no common basis of either action or agreement; no two persons are of the same opinion as to what is wanted to remedy the defect. The Principal of the Artisans' Institute thinks he is doing a great work by encouraging a little *dilettante* modelling and carpenter's work in a garret in St. Martin's-lane, and some of the City companies and private individuals have given liberal donations to this work. Occasionally we hear of the technical education of bricklayers and masons, but what is meant by this technical education is not quite so clear to the outside public. Opinions differ very widely, not only as to what is meant, but what is wanted, and the definitions which have from time to time appeared only add to the general bewilderment. One says, a knowledge useful to men in their work; another, an intelligent appreciation of natural laws in their application to the industrial arts; another, the teaching of mathematics and drawing in their relationship to various trades and handicrafts; and Professor Huxley, in a recent address, regards technical education not as the teaching of technicalities, but as the best training for enabling the pupil to learn them himself; and this training appears to be the training of a good science and art school.

The vagueness of these definitions arises from men not making a sufficient distinction between the science and practice of an industrial art. The union of science with practice is at present an impossibility, because it is difficult except in very rare cases to unite the two qualifications in the same person. To learn the practical work of mining, a man must go to work in a mine; but the theory of the Davy lamp, of ventilation, the best methods of getting, transporting, and raising material, can be taught in a schoolroom. In the same way a carpenter, to learn the practical part of his work, must engage in the work of the shop; but to understand the scientific principles involved in the construction of a roof, so as to use his wood to the best advantage in resisting the various forces acting upon the roof, he must know some geometry, mechanics, and mathematics. In 1820, Baron Charles Dupin began teaching the apprentices and workmen of Paris geometry and mechanics in their application to the manufacturing arts. Several professors and engineers, animated by a generous desire to promote this instruction, commenced courses of lessons to the apprentices and workmen in nearly all the manufacturing towns of France. This instruction was gratuitous; and in 1825, Baron Dupin says, thanks to the general and effectual assistance of a great number of municipal councils, mayors, prefects, and sub-prefects, friends to useful knowledge, ninety-eight towns are endeavouring to rival each other in their zeal for imparting this new instruction to the working classes; and I can assert, because I have indis-

putable authority, there are workmen who, since the opening of these classes, have improved their tools and instruments, and have constructed others more perfect,—workmen who have carried into their trades and occupations that geometrical and mechanical spirit which has simplified their proceedings, and which leads to that accuracy, economy, and precision, without which the arts cannot produce anything either good or beautiful. There is no difficulty in understanding what is meant by an apprenticeship to the trade of a carpenter: the lad in a certain number of years, dependent on his aptitude and the willingness of the men to teach him, learns the names and uses of tools. In time he becomes a journeyman; if he be a careful, painstaking lad, able to set out his work, sparing no pains or labour in keeping his tools in order, and planing up his wood so that the stiles and different parts of his frame-work are out of twist, the tenons accurately cut, and the mortises carefully made so that every part fits tightly and compactly together, he is regarded by his fellows and his master as a good workman. And if he take pleasure in his work, striving to do everything as perfectly as possible, there is nothing in the trade of a carpenter to which such a man may not succeed. Now this perfection in the older industrial arts may be attained, and often has been attained, by men who could neither read nor write, but it would have been attained more easily and readily by men who could read and write. With a system of bargain and contracts, which often encourage loose slovenly work, it is difficult to make good workmen. For every workman taking an interest in his work, and striving to do it thoroughly, except in some of the more artistic industries, there are hundreds, perhaps thousands of workmen, who never in their whole life did a piece of honest, good work. The men are not entirely to blame for this wide-spread demoralisation. The master, who used to work with his men, is seldom seen, and in companies there is no master. Between the workman and his employer there are a number of men who never did a day's work, either on the scaffold or in the shop. The foreman of a large engineering and fitting firm, employing a large number of apprentices, said to me:—"When they go out of the yard we have nothing more to do with them until they come in again, and then it is our business to look after them and see that they do their work." A large railway company, employing some thousands of skilled workmen and apprentices, used very properly to select their apprentices from the sons of workmen. Lads who wished to be taken on had to appear between nine and ten on Monday mornings, and the interview was something after this fashion: "What's your name? What shop does your father work in? How long has he worked for the company? How many brothers have you? Are you the eldest? What's your age? Go to No. 6 shed and tell the foreman to set you on." No question about education, or his school life, or his attendance at drawing or science classes,—these are matters in which large firms and companies take little or no interest. If the boy is liked in the shop he is kept on, and in time rises to be an average workman. If he is a troublesome, careless lad, against whom the men or foreman have taken a dislike, he is turned out, and has to seek some other less skilled employment. If these companies required the sixth standard and the certificate of the Science and Art Department in drawing and mathematics or mechanics before taking a lad into their service, and then provided schools or classes for more advanced drawing in those sciences which bear on their particular industries, and if attendance a certain number of hours at these classes were made compulsory during the first four or five years of their employment, there would soon be a more intelligent class of workmen; and the time spent at these classes ought to be considered as time spent in the service of their employers. All attempts to unite the theory of an art with its practice, except under similar favourable circumstances, will be a failure. In looking over the list of science and night classes, it will be found that very few exist in connexion with private firms or companies. There are a few noble exceptions, bnt in most cases employers have either discouraged any effort to establish night-classes, or declined to give any assistance. More help and encouragement have been given by the clergy than any other body, and but for their friendly co-operation the work of the Science and Art Department in many places would have been a failure; but the clergy can only have an indirect interest in the extension of science and art instruction. They are certainly not animated with the idea that more drawing and more science will enable us to compete more successfully with other countries, but with the higher and older faith of St. Augustine, that every increase of knowledge has a spiritual significance and relationship to God's will and providence in this world.

The great want of working men is not technical schools, such as some have described, but more general and scientific education; a wider development, by means of prizes, exhibitions, and scholarships, [of the classes and schools of the Science and Art Department; a better training in drawing, in mathematics, and mechanics; which will enable men to regard their labour, not as the instinctive toils of animals, but as a matter upon which they can daily exercise their faculties. It is to a large extent the defective elementary education of lads which prevents their attendance at science and art night classes.

The great aim of all technical education should be, in the first instance, a training in drawing and mathematics; and to attempt the higher education of working men without this training is to begin building with the roof instead of the foundation. All attempts to turn a school into a workshop, or a workshop into a school, will certainly fail in the future as they have in the past. When a lad knows his geometry and mechanics, he has no difficulty in bringing this knowledge to bear on his daily work. The various scientific principles involved in the constructive arts will never be learnt in the workshop, nor can the practical application of this knowledge ever be acquired in a schoolroom. The future workman or mechanic generally leaves school before he reaches the fourth or fifth standard; it is, therefore, almost impossible to teach him any of those sciences which relate to the industrial arts, and the so-called education of the working man is at an end. He now devotes his leisure to newspapers, politics, and trade questions; these require no intellectual effort, and he sinks to the level of an ordinary working man. There is no direction in which the wealth of many of the City Companies could be more usefully employed than in helping deserving lads to local scholarships and exhibitions. There should be a closer connexion between the elementary schools and the Science and Art night classes, so that lads pass from one to the other with as little interval as possible. There should also be in every moderate-sized town a graded or secondary school, to which the clever boys from the elementary schools should be promoted by examinations, and exhibitions, and scholarships. The organisation for this secondary scientific education already exists. For more than twenty years the Science and Art Department has encouraged the teaching of drawing and science in schools and night-classes; but managers, committees, school boards, and mechanics' institutes are slow to move. City companies and private individuals might render great service by increasing the number of scholarships and exhibitions awarded by the Department. In many places these opportunities are lost, because there is not sufficient local interest to raise the 5*l.* required by the Department. The great use of more scientific teaching is not to be estimated entirely by its practical and material value, but for the higher purpose of developing the intelligence, making men more thoughtful and self-reliant, and giving them something to occupy their minds with as a relief from daily work. To make practical results the direct aim of all science and art teaching is to impede the very results for which we are working. The more general diffusion of scientific knowledge among working men and others will bring countless blessings and benefits to mankind; but to teach science solely for the sake of these benefits is to injure the science and lessen the benefits. There may, perhaps, be good reasons why education should be directed to secure material results; but this is not the spirit in which the education of the working classes should be directed.

A Church Tower destroyed by Lightning.—For (it is stated) the third time within thirty years the tower of the Parish Church of Week St. Mary, North Cornwall, was, on the 9th inst., struck by lightning and destroyed. It would be interesting to know whether any lightning-conductor was ever fixed to the tower.

ELECTRIC LIGHTS.

Messrs. Hodson, Price, & Hodson, architects, having been requested to set forth, for the information of the Lighting Committee of the Loughborough Local Board of Health, their views upon the question of lighting some of the open spaces of Loughborough, more particularly the market-place, by means of the electric light, have addressed an interesting report to the Board, in which they first describe succinctly the various systems at present known. We print the concluding portion of the report, which includes a suggestion as to obtaining power which may be useful to other towns.

Science has placed at our service a grand means of illumination, surpassing even the dreams of our ancestors; but at present it can only be economically applied to lighting up large spaces, such as market-places, workshops, factories, and great centres of traffic, but the public, and possibly the gas companies, must bear in mind that we are only just passing the threshold of the mysteries of electricity, and that a few further steps in advance may bring within our reach methods of generating and storing up electricity as gas is now stored in holders and power stored in an hydraulic accumulator, and reconducting it throughout circuits of sufficient capacity to bear subdivision, so that it may be applied to the purposes of ordinary life. Even now the Jablochkoff, Lontin, and other systems subdivide electricity; but they only subdivide it as generated, and the step between this method and the manufacture of electricity to keep in store and to be drawn upon from its reservoir as required, may only be a question of a few years, perhaps only a few weeks, and when that is done the public anticipations may be realised, but it must of necessity always be at large cost, the elements of which are, the power necessary to generate electricity, and the apparatus required for its distribution. In many publications we have lately seen the most ridiculous means have been taken to delude the public. The cost has been stated at 3d. per hour, or 6d. per hour, as the case may be, which is merely the cost of the sticks of carbon consumed, and the real element of cost, *i.e.* that of the motor and apparatus, has been designedly omitted.

The principal source of cost after provision of the apparatus is the expenditure for motive power to drive the generating machines, and for a long time we have had the idea that Loughborough, like the majority of other towns having a supply of water by gravitation, had, during six months of the year at least, and those six months the period when the lighting was most required, an ample supply of water at high pressure, capable of generating power sufficient to drive several motors, of sufficient force to provide light; and that this supply, owing to incapacity of reservoir space, was absolutely wasted. The reservoir, when once filled up by the autumnal rains, is kept full throughout the winter, all flood waters and excess of rainfall being permitted to flow away down the bye-wash, and become lost for all useful purposes, when every facility exists for converting its power into light, and, after its power is recovered, using it for flushing the public sewers, the waste in Loughborough in the driest season being equivalent to 35 billions of pounds, raised 1 ft. high, and in an average season nearly double that amount.

We have seen in previous paragraphs that the Siemens lights can be maintained, according to intensity, at an expenditure respectively of two, four, and seven horse-power, the smallest power being ample for the full illumination of the Market-place, being equal, if increased, to about eighty-five of the ordinary gas-lamps, and that Jablochkoff lights can be maintained at an expenditure of about one horse-power per light, each light being equivalent to 600 candles. The smallest machine now made is capable of supporting four of these lights, and absorbing four horse-power.

Acting upon these data, we have carefully calculated the power available, and find that a 3-in. pipe connected to a 6-in. main, discharging its full capacity, will develop a theoretical power equal to 9·21 horse-power, about 8 horse-power indicated, the expenditure of water being 70 cubic feet per minute, and that this amount of power can be obtained in any part of the town where a main pipe 4 in. in diameter exists.

The only requirements, therefore, for establishing electric lighting for, say, the Market-

place, Loughborough, will be the provision of one of Ramsbottom's or Bailey's water motors, together with the requisite shafting, pulleys, and belts to acquire the proper speed, and a Gramme, Siemens, or Wallace-Farmer dynamo-electric machine of a size proportionate to the number of lights required, and to lay on water to the motor, and connect the waste to the sewers. . . . .

The gross outlay for providing all requisite apparatus would be probably from 200*l.* to 400*l.*, equivalent to, say, a charge of 20*l.* per annum; but this apparatus would continue year after year to afford light, requiring only the cost of carbons and trifling outlay for attendance, and would be capable of generating light equivalent to over 400 gas-lamps, although, unfortunately, the light must of necessity, with our present knowledge, be diffused from a few points in unnecessary volumes. But this objection, on economical grounds, will disappear when Edison or some other inventor determines a method by which subdivision of the currents can be carried to a further degree than is practicable at present.

We have dwelt upon the subject at greater length than we intended at the outset, because the subject itself is peculiarly interesting to us, and because, in order to secure its adoption, it is necessary that the public should understand the difficulties in the way as well as the advantages to be derived. We do not, however, anticipate that the matter will at once be taken up; but, in course of time, when manufacturers and quarry-owners having spare power at their disposal, and landowners having sources of power at their doors, by falls of water on their estates, clearly appreciate its benefits, we have no doubt the system will be universally introduced.

What we wish to point attention to is the fact that year by year, throughout the dark winter months, every river in England is capable of producing light sufficient to illuminate large areas of towns and villages. At every mill on our own Soar sufficient power is wasted in the waste water allowed to escape to light up in a glorious manner every village along its banks. Thus town authorities having the control of gravitation water-supplies have a means of economic lighting in their hands which can be developed at but trifling outlay.

CHURCH ARCHITECTURE: ITS PROPER RELATION TO SIMPLE CHRISTIAN WORSHIP.

At the Church Association Conference, held at Derby on the 6th inst., a discussion on this subject was opened by Mr. Alfred R. Pite, architect, who read a paper in the course of which he expressed his anxiety, in leaving the beaten track of ecclesiology, that we should discover what principles were in danger from the Ritualistic encroachments of the day, and take counsel how to act in the emergency. For thirty years Mediævalism, under the specious garb of a Gothic revival in architecture, has been moulding the minds of the clergy and laity alike for the reception of certain Romanistic forms of design and structure now said to be popular. This tendency had gradually spread like a fretting leprosy over a large ecclesiastical surface. Not only had it imposed upon church buildings, fittings, furniture, and vestments a Romish character, but an affected gorgeous ceremonial has, in many cases, taken the place of simple Christian worship. By a veiled and stealthy sapping, the pulpit,—the platform of God's herald,—has been undermined, and the altar of sacerdotalism substituted as the central object of attraction. Over-decorated structures of pseudo-Mediæval design, but carried out in detailed subservience to modern conventionalities, are introduced to covertly favour Popish formularies, and to serve as stepping-stones to the ornate ceremonial of a sensuous religion, whose chilling influences and bondage to ordinances stamp it as antagonistic to the Scriptural injunction that we should "attend upon the Lord without distraction." Against this parody of religion and this obtrusiveness of worship, permitted alas, by the Latitudinarian tendencies of the day, "*the* stones cry out of the wall, and the beam out of the timber shall answer it" that the walls are "daubed with untempered mortar." Coming to the inquiry, How can architecture consistently represent the principles and usage of the Church of England, and thus in a subsidiary way contribute to simplicity and reality in Christian worship? Let their buildings and ornamentations reflect, in design and execution, the pure light of New Testament Scripture, where no sacerdotal acts were performed by the ministry, but where they were appointed the evangels of the Gospel, to teach and exhort the people as ambassadors of the Most High. Simplicity of plan should, therefore, characterise all our ecclesiastical structures; and where means and inclination combine to produce a building of imposing proportions and striking beauty, all the resources and expedients of the arts might be worthily employed in harmonious rivalry for legitimate effect. The architect should cultivate his great art with all its accessories for the service of the Lord of Hosts, so as to assist and not hinder the worshipper, realising the responsibility attaching to his most honourable employ as a servant of Jesus Christ.

The Rev. Canon Ryle, after referring to the vast importance of the subject, said they were all agreed on this, that it was not the place, the building, or the architecture which made the worship acceptable to God; but still, in view of the great tendency which existed in the present day to build and restore churches and cathedrals, it behoved them to look this question boldly in the face. What they ought to aim at was, churches in which usefulness and beauty should go hand in hand, and be harmoniously combined together.

Dr. Ogle said that this was a layman's subject, and, as a layman, he contended for great care in the construction of our churches, especially with regard to the chancels, in which all questionable adjuncts of divine worship should be avoided.

The Rev. Paul M. Walker (Edensor) contended that there was no analogy between the worship of the Temple and that of the Christian Church, and that the buildings, therefore, ought not to be assimilated. The Christian Church was the reproduction of the synagogue, and the architectural arrangements ought to be similar.

The Rev. S. D. C. Douglas urged upon his reverend brethren that their great object should be to keep their people in spiritual worship, and to provide them with a place where they could sit down comfortably, and see and hear everything. Above all, they should rid themselves entirely of the idea of symbolism, with which they had nothing to do.

The Rev. J. W. Johnson (Leamington) said the opinion of the branch of the Church Association at that place was that careful supervision should be exercised over architects in the erection of churches, so that they might be erected in accordance with the judicial decisions of the law courts with regard to the worship of the Church of England, as opposed to that of the Roman Catholic Church.

Mr. Stokes (Bath) advocated the abolition of all adjuncts of Mediæval worship, which were inconsistent with the worship and doctrines of our Reformed Protestant Church.

THE NON-PROFESSIONAL STUDY OF ARCHITECTURE.

Sir,—My attention has been directed to your interesting article of the 2nd inst. on "The Non-Professional Study of Architecture." Some recent experiences of my own in relation to the question you so ably discuss may perhaps be of interest, as illustrating the surprising apathy with which this branch of study yet appears to be regarded in England.

A few years ago, while resident in Canada, I was asked by the Montreal Ladies' Association to give a course of lectures on architecture, as viewed from the historical and descriptive standpoints. To this request I readily acceded, and a class of about a hundred came to hear what I had to say. At the end of the course an examination took place, and several papers, remarkable for diligent appreciation and grasp of the subject with which I had dealt, were sent in.

Such was my colonial experience. Now for the contrast.

During the early part of the present year, in a lecture I had the honour of giving before the Philosophical and Literary Society of this town (Leeds), I again pleaded, as you have done, for the recognition of the study of architecture, in its historical aspect, in our systems of general education; and what I then said appeared to be received with approval. Being wishful to follow the matter up, and thinking that what had not been unacceptable in Canada might possibly be useful at home, and in a town not undistinguished for its educational activity, I proposed, with the sanction of our governing body, to give, during the winter, a similar course of lectures to that previously given in Montreal. In order to see whether a class could be got together, and as, moreover, the subject was somewhat new and not within the regular curriculum, special notices were issued in the summer, and names of intending students requested to be sent in by a certain date.

The current of old ideas has, however, shown itself to be still too strong, for up to the 8th of October,—the first day of our session,—one name only had been entered. I need scarcely add that, under these circumstances, it has not, for the present at least, been thought worth while to pursue the matter further.

G. F. Armstrong,
Professor of Civil and Mechanical Engineering, and some time Professor in McGill University, Montreal.

CREWKERNE GRAMMAR SCHOOL COMPETITION.

We have received several letters pointing out objectionable clauses in the "Instructions." It would be useless, however, to print them. Intending competitors must use their own judgment and act accordingly. One of the writers ends his letter thus:—

"To any one who knows anything about the cost of building in the present day, it is quite evident that no building, however plain, can be built with the required accommodation for the sum mentioned; as, after deducting architect's commission, clerk of work's salary, and a sufficient sum to cover contingencies, there will barely be 5,500*l.* left for the buildings themselves. I think that I have said quite enough to convince all thinking men that it would be absurd to compete under such conditions and instructions."

NEW BANKING PREMISES, KETTERING, NORTHAMPTONSHIRE.

The new banking premises for the Leicestershire Banking Company in the High-street have been opened for public business. The building, which is in the Italian style, has a frontage to the street of about 60 ft., and the bank occupies about half the remainder, comprising the manager's residence. The front is built of Bath stone, with native stone ashlar, and the contrast is good. The banking-room, which is 28 ft. high, is simply lighted by windows on the east and west, and at the back are a commodious fireproof strong-room and private room, lavatories, &c. The bank fittings are in polished pitch pine; and the bank and rooms adjoining are heated with hot water. The manager's residence comprises dining, drawing, and breakfast rooms, and the usual offices and bedrooms. The floor of the entrance-hall, lobbies, and part of the bank are of encaustic tiles from the works of the Coalville Company. Messrs. Grinson & Co., of Leicester, supplied the hot-water apparatus. The bath-room is fitted with one of Finch's patent porcelain baths, with Tyler's bath boiler attached. The works have been carried out by Messrs. J. & G. Henson, builders, of Kettering, from the designs and under the superintendence of Mr. R. W. Johnson, architect, of Melton and Kettering. Mr. Clifton was clerk of the works.

PROPOSED NEW BRIDGE ACROSS THE THAMES AT CHELSEA.

A movement has been commenced for the erection of another new bridge across the Thames between Chelsea and Battersea. At the last meeting of the Chelsea Vestry a letter was read from the Chelsea Parochial Protection Society, recommending the Vestry to urge upon the Metropolitan Board of Works the desirability of applying to Parliament for the necessary powers to construct a bridge across the river from a point opposite the entrance to the late Cremorne Gardens to High-street, Battersea, and also to extend the Chelsea Embankment from its present abrupt termination at Battersea Bridge to its natural ending at the foot of the proposed new bridge. The suggestion in the letter was favourably received by the Vestry, and the subject was referred to the Western Embankment Committee, with power to act.

WARNING TO ARCHITECTS.

HUNT *v.* THE WIMBLEDON LOCAL BOARD.

THIS was a case (tried in the Court of Appeal) of importance to those who have dealings with corporate bodies. At the trial before Mr. Justice Lindley, at Westminster, last Hilary Sittings, it appeared that the defendants, who are the "Urban Sanitary Authority" for Wimbledon, having resolved to erect new offices for the use of the Board, directed their surveyor to employ the plaintiff, an architect, to prepare plans and drawings for the buildings they intended to erect.

The plans were drawn, and were submitted to the defendants, who approved them, and directed quantities to be taken out in accordance with them, and advertised for tenders and specifications for the building. The proposed plan being found to be too expensive, none of the tenders were accepted, and in the end new plans of a less expensive nature were obtained, and offices built in accordance with them. The plaintiff then brought his action for work and labour in preparing the plans he had furnished. The defence relied upon by the Board was that by the Public Health Act, 1875, sec. 174, they, as a corporate body, were only authorised to contract by writing under their corporate seal in all cases where the subject-matter of the contract was of greater value than 50*l*. The jury found that the Board authorised the surveyor to procure the plans, and ratified his act, that the new offices were necessary for the purposes of the Local Board, and the plans necessary for the erection of the offices. In spite of these findings, Mr. Justice Lindley, who reserved the point, and had it argued after trial, decided that the plaintiff could not recover, as his contract with the defendants was not under seal.

The plaintiff now appealed.

After hearing arguments at considerable length, their Lordships unanimously affirmed Mr. Justice Lindley's decision, holding that the words of the statute were clear on the subject.

Lord Justice Bramwell, in the course of his judgment, remarked that though in a former case Mr. Justice Blackburn had said that in certain cases justice and convenience appeared to be in favour of holding a corporation liable though the contract was not under seal, he himself was not by any means clear upon that point. It was by no means clear that it was not desirable that in dealing with bodies who had not their own interests at stake, but those of the public, persons should take care that the transaction was carried out in accordance with law; and if careless and slovenly people chose to act otherwise they must take the consequences. In the present case, if more solemnity had been used in the transaction, probably those who gave the order would have cautioned the architect not to make the plans for too expensive a building. It was a dangerous thing to fritter away the provisions of statutes in order to do supposed justice in particular cases.

So far as can be judged from the report of the case, a more contemptible and discreditable plea was never raised by a public body. Architects should bear the Wimbledon Local Board in mind.

FOUNDATIONS WITHIN THE METROPOLITAN AREA.

DR. WHITMORE, in his "Annual Report on the Health of Marylebone," recently published, directs attention to the additional powers now possessed by district surveyors, and although these have been already pointed out in our pages, it may be useful to repeat what he says,—

"During the past session a Bill, prepared and brought into the House of Commons by Sir James McGarel Hogg, Sir Charles Russell, and Mr. Rodwell, and entitled the "Metropolis Management and Building Acts Amendment Bill,"* has received the sanction of the Legislature. This Bill contains some important clauses "relative to the making, filling up, and preparation of the foundations and sites of houses and buildings to be erected within the metropolis, and with respect to the quality of the substances to be used in the formation or construction of the sites, foundations, and walls of such houses and buildings, with a view to the stability of the same, the prevention of fires, and for purposes of health." With reference to that part of the Bill more directly concerning the public health, I gave evidence, in conjunction with Dr. Tripe, the Medical Officer of Health for Hackney, before a Select Committee of the House; and our evidence went to show that, in many instances, entire streets and other large blocks of houses had been, and were still being, constructed upon sites and foundations made up of substances of a most polluted and unwholesome character, and that the materials used in the construction of those houses were, for a similar reason, hardly less objectionable. We were in a position to state that many sites were made up of slop and road scrapings, mixed up with sewage matter, together with a large amount of decomposing animal and vegetable refuse, the effect of which was to impair very materially the health of persons occupying the houses erected on those sites; and I was enabled to refer to a particular locality in which there had been for many years a large death-rate from fever and other infectious diseases, which diseases were traceable to the infected and polluted character of the sites and foundations on which the houses in that locality stood. The 16th clause of this Act provides that 'In case any house, building, or other erection begun to be constructed after the passing of this Act, is constructed, or begun to be constructed, upon any foundations or site, or with any substances, which have not been made, filled up, and prepared, or which are not in description and quality in accordance with the provisions of the Bye-laws relating thereto, made under the authority of this Act, or in accordance with the terms and conditions subject to which the Board may have dispensed with the observance of any such provisions, the district surveyor may forthwith, by notice to be served on the occupier of such house, building, or other erection, or on the builder, owner, or other person engaged in constructing any such house, &c., require him to alter, pull down, or remove such house, &c., or any part thereof, as he may think proper'; and in case of non-compliance, such owner shall be liable to a penalty of not less than 10s., or more than 40s., for every day from the time of the service of such order until the requirements of such order are fully complied with, power being given, in Clause 17, to the owner to appeal, within seven days, against such order."

* The power to carry out this Act is vested in the Metropolitan Board of Works.

WHAT IS THE "ELEVATION" OF A BUILDING?

A TRIAL of some novelty in connexion with building came on last week at the Liverpool Assizes.

Mr. Nathaniel Proctor, a builder and file manufacturer, of Liverpool, sued Mr. William Williams, a chemist, for an infringement of proprietary rights in respect of some freehold houses in Crown-street, in that town. The plaintiff's counsel said that this was a case which, although the importance involved from a pecuniary point of view was not very great, had excited a good deal of feeling between the parties. The plaintiff was the owner of some ten or eleven of a terrace of some sixteen houses, which were retired back from the thoroughfare, with a garden or plot in front. The dwellings were all built at the same time, and the defendant became the proprietor of a single house between those belonging to the plaintiff. To preserve their uniformity, it was stipulated in the title-deeds that the elevations of any of the erections should not be altered without consent and approval. The plaintiff's case was that the defendant wrongfully raised his house, and in doing so built upon the party-walls separating it from the plaintiff's houses, thus improving his own property and injuring that of his neighbour.

Mr. Aspinall, Q.C., who appeared for the defendant, at this stage of the case, interposed, and said:—"We deny that we have built upon any portion of his party-wall; and we say, in the second place, that we have not altered the elevation."

Justice Manisty.—But, according to the plan shown, you have made your house higher than the others.

Mr. Aspinall.—"Elevation" is an architectural term, and has a particular meaning. We deny having altered the elevation.

The Judge suggested that the parties should come to some arrangement, and that the dispute between them was for an architect to decide.

After a consultation between the counsel it was announced that they had consented to a nominal verdict for the plaintiff, subject to a reference to Mr. Ellis, an architect, who should have power to decide the point.

DAMAGES FOR NEGLIGENCE.

PARK *v.* KER.

THIS was an action raised in the Dumfries Sheriff Court by William Park, plasterer, Annan, against Hugh Ker & Son, joiners and builders, Annan, claiming the sum of 1,000*l*. as loss and damages sustained by him through the culpable neglect and fault of the defenders on the occasion of the erection of the new town-hall, Annan.

The pursuer, while fulfilling a contract for the plaster work of the new town-hall at Annan, had been precipitated to the floor, along with his son Robert, and James Hopper, labourer, by the scaffolding giving way, the distance of the fall being about 16 ft. Petitioner's leg was broken, and he sustained other injuries, in consequence of which he was disabled for some months, and is now permanently lame.

Sheriff Hope issued an interlocutor in which he finds in law (1) That upon a fair construction of the clause in the specifications quoted the responsibility of making the plasterer's scaffolding sufficient as regards stability rested on the defenders; and (2) that as the accident to the petitioner happened in consequence of the scaffolding proving to be insufficient for the purpose, the defenders are liable in damages to him in respect of the injuries and losses he sustained. He therefore repels the defences, assesses the damages at 200*l*., for which sum decerns against the defenders with interest as libelled, and finds them liable in expenses.

Architectural Restoration.—Public meetings are fixed to be held of "Notes and Queries Society," Royal Institution, Liverpool, Dec. 9th and 16th, to forward the views of the Society for the Protection of Ancient Buildings. Brief papers by Mr. William Morris, Mr. J. J. Stevenson, Mr. James Bromley, and Mr. Samuel Huggins. Speakers:—Mr. J. A. Picton, Mr. J. A. Noble, Mr. J. M. Hay, Rev. W. Binns, Mr. William Swainson, Mr. Charles Dyall, Mr. W. Tirebuck, Mr. P. H. Rathbone, Mr. F. Kempster, M.A., and Mr. R. R. Douglas.

THE STORAGE OF PETROLEUM.

IT is not generally known that petroleum deteriorates by being kept in vessels of certain metals. Thus it is said that, if stored in a leaden vessel for one week, petroleum becomes so impure that the wick must be cleaned several times during the evening; if the surface of the lead is metallically pure, the oil will spoil after storage in the vessel for one day. An iron receptacle does not lower the illuminating power of petroleum, but the latter assumes a darker colour, and precipitates rust-coloured sediment. Zinc and inferior zinc alloys spoil petroleum. Metal petroleum vessels ought to be of tin, copper, or tinned copper, and should not be soldered with alloys containing lead; such vessels scarcely affect the oil; only a storage of several months' duration will slightly deteriorate it. According to the *Hannoversches Gewerbeblatt*, our authority for the above, vessels of stoneware or slate are to be preferred to all metal receptacles for the preservation of petroleum.

"HOARDING."

SIR,—I wish to ask you, and any of your readers whose knowledge as men of business enables them to speak in the matter, what authority there is for the word "hoarding," as used to describe a place closed in for any purpose such as erecting new buildings, making alterations, &c., public or private. I believe there is none; and that it is a corruption which has gradually crept in of the old word "boarding" used to express it in my young days, and that appropriately. SENEX.

*** In Gwilt's "Encyclopædia of Architecture" the derivation of the word "Hoard" ("a timber enclosure round a building in course of erection or repairs"), is given as from the Saxon of "to keep."

ELECTRIC LIGHT.

SIR,—Having had some experience in the matter of electric lighting, perhaps I may be allowed space for a few remarks.

Some twenty years ago, whilst new Westminster Bridge was being built, I was asked by Dr. Watson, of the Electric Light and Colour Company, to construct a suitable reflector for the diffusion of the electric light obtained by his patent lamps. A report of the experiments appeared in the *Times* of that period.

After much trouble, I succeeded in producing a reflector, which distributed the light over a considerable portion of the Thames.

It is my opinion that in many cases where the electric light has to illuminate a very large space, a combination of several lights, centrally placed, and assisted by several special reflectors, would accomplish the desired object more effectually than the opal globes now used in Paris. Further, it is essential that the electric light should be placed at a much greater altitude, thereby disposing in a great measure of the objection to "strong glare."

I was in Paris some weeks ago, where, having had frequent opportunities of observing electric lighting in various places, I formed my opinion as to what, I venture to submit, would be the best mode of applying the electric light.

P. E. CHAPPUIS.

SPIDERS IN BREWERIES.

SIR,—Will any of your readers help me to extirpate the spiders in the fermenting and tun rooms of a brewery? In an astonishingly short space of time after clearing them away the whole place has been festooned with heavy webs. The clearing away is an awkward process, as the webs fall at times, notwithstanding all the care taken, into the open vessels. Is there any non-poisonous wash offensive to spiders which can be mixed with limewhite? It might be useful in other places, as well as breweries. AN ARCHITECT.

CONCRETE PIPES.

SIR,—Lest silence should be taken as admission of assent to the reports which you have published of Messrs. Donaldson & Ponton on the above subject, will you allow us briefly to say that we impugn the accuracy both of the statements made and the conclusions drawn? Not with such haste, but in due time, we shall submit, in place of assertion and theoretical calculations, evidence and facts sufficient to destroy what possible value those reports may have had in the eyes of some who have been in such a hurry for their production. THE MANUFACTURERS.

MASTERS AND MEN.

Birmingham. — After a strike of about a month's duration, the glass-makers employed by Messrs. Chance, Brothers, at Spon-lane, near Birmingham, have agreed to accede to the repeated request of the masters and give the proposed new system of working a trial. The flatteners have not yet arrived at a final decision, but there is thought to be no doubt that they will follow the course of their fellow-workmen.

Banbury. — The master-builders of Banbury having stated their determination to abide by their decision to reduce the wages of carpenters, joiners, and mechanics engaged in building trades a penny per hour, the workmen struck work on the 16th inst., some of them taking away their tools. They did not ask for their back time, so that it is thought they expect that some arrangement may be come to after a few more meetings have been held.

Inverness.—At a meeting of the carpenter-contractors of Inverness on the 13th inst., it was resolved to intimate to the workmen a reduction of wages by one penny per hour, and some modifications of the existing bye-laws. These changes, it is proposed, are to take effect three months hence.

Kilsyth.—The master-masons of Kilsyth have intimated to the men in their employment a reduction of wages to the extent of ½d. per hour.

Irvine.—The masons of Irvine have resumed work on the masters' terms, 1d. per hour reduction.

Motherwell.—On the 16th inst. it was intimated to the joiners in the Motherwell district that their wages would in future be reduced from 7d. to 6½d. per hour.

Jedburgh.—The wages of the journeymen masons of Jedburgh have been reduced ½d. per hour. The wages now are, for those working in the country, 7½d., and for those working in the town, 7d. per hour.

Crieff.—Some of the master painters of Crieff have reduced the wages of the journeymen 1d. per hour, the rate now paid being 6d. per hour.

Dunfermline.—Masons' wages in Dunfermline have been reduced from 8d. to 7d. per hour.

Arbroath.—The master joiners of Arbroath have agreed to reduce the wages of their workmen from 7d. to 6d. per hour, the reduction to take effect from the 22nd inst.

Dumbarton.—The master house-joiners in Dumbarton have resolved to reduce the wages of the workmen from this date by 1d. per hour. This will make the rate of wages 7d. per hour, the same rate as is current in Glasgow. The men will agree to the reduction.

Hawick. — The master-masons have given notice to the workmen of a reduction of wages from 8d. to 7d. per hour after the 25th inst., and to the labourers of a substitution of a wage of 5d. per hour instead of the fixed weekly wage now paid.

Dundee.—The Dundee joiners on the 16th inst. agreed to a reduction of wages from 7½d. to 7d. per hour under protest.

Edinburgh.—At a numerously-attended meeting of the master-joiners of Edinburgh on the 14th inst., it was, the *Scotsman* believes, unanimously agreed to reduce the wages of the "competent workmen" from 7½d. to 7d. per hour on and after the 2nd of December.

Glasgow.—At a meeting of the Central Lodge of the Glasgow Masons' Society, held on the 15th inst., it was stated that a large number of workmen had left the city in search of employment, and that the strike roll had become greatly reduced. It was also reported that aid from different quarters of the country was expected. On the 18th inst. the masons on strike, to the number of about 1,000, held a meeting in the Albion Halls, College-street. It was stated that one of the largest employers in the city had given in. After considering the position, the meeting agreed to continue to hold out. The Central Committee of the Operatives' Society have, it is stated, issued a circular to the various "lodges" throughout Scotland, pointing out that in view of the funds of the Society being "locked up" in the City of Glasgow Bank, it will be necessary, if the strike in Glasgow is continued, to make a weekly levy on the working members, and asking the different branches to vote on the question whether or not the strike should be prolonged.

Montrose.—The masons employed at Montrose have struck work, on account of a reduction of ½d. per hour on their wages being intimated.

Miscellanea.

The Value of Land in Relation to Metropolitan Improvements. — Messrs. Fuller & Fuller sold by auction, on Tuesday, November 5th, three freehold houses in St. John's-square, Clerkenwell, covering an area of 2,660 superficial feet for 2,580*l.*, being about 1*l.* a foot. The auctioneer mentioned that the property in question was the remaining portion not taken by the Board of Works under their Act of 1872, as they only served a notice to treat for the four adjoining houses, covering 5,095 ft. Land has very much risen in value within the last five years, as shown by the evidence of the Board's witnesses in November, 1873 (exactly five years ago), when the matter was referred to the late Mr. F. J. Clark (Farebrother, Clark & Co.). The following opinions were then given:—For the 5,095 ft. required without adding the usual compulsory sale, Mr. Robert Vigers, 2,574*l.*; Mr. Charles Stephenson, 2,528*l.*; and Mr. Robert Reid, 2,504*l.*, or about 10s. a foot, so that if this sale is to be taken as evidence of value, the rise in the last five years must have been about 100 per cent. Mr. Fuller, Mr. H. E. Murrell, and Mr. Fletcher all put it, in 1873, at 1*l.* per foot, and the umpire awarded 4,202*l.*, or exactly 15s. a foot, including 10 per cent. for compulsory sale, so that it would seem claimants do not necessarily reap that advantage from having their property taken compulsorily, as has been generally supposed, but may suffer a loss.

The Colosseum Theatre, Liverpool.—On Wednesday last, Mr. Goodman, the lessee of the Colosseum, and the executors of the late Mr. Heath, who are the owners of the premises, were summoned at the Police-court by the Liverpool Health Committee for not taking down or securing the roof of the building after it had been pronounced to be in a dangerous state. Mr. Deacon, the Borough Engineer, gave the most alarming evidence as to the insecurity of the roof, and said he believed that 6 in. of snow, or a little extra vibration from high wind, might bring it down, and occasion fearful loss of life. Mr. Raffles said that if he could order the place to be closed, he would; but the Deputy Town-clerk stated that the magistrate had no such power. Mr. Raffles asked the lessee to undertake to close the place for performance until the roof had been made secure. Mr. Goodman declined to give this promise, but said he would prop the roof up. Mr. Raffles warned him that if lives were lost through the roof falling, he would be committed for manslaughter. Mr. Goodman was ultimately ordered to pull down the roof or make it secure within fourteen days. The information against the owners was dismissed. The usual entertainment was given in the building on Wednesday night.

Liverpool Master Builders' Association. The annual dinner in connexion with this Association was held on Tuesday evening, Mr. John Wells, president, in the chair. The chairman proposed "The National Association of Master Builders of Great Britain," to which Mr. T. Clay and Mr. S. G. Bird responded. Mr. Clay said they were determined to stop the extreme demands of the men in the building trade. They would not take any unfair advantage of them, but they would not have a false value put on labour in the future. Mr. R. Neill, jun., then gave "The Liverpool Master Builders' Association and its Branches," which was responded to by Mr. Litt. Mr. Pendleton said that, until this year, the action of the Association had been in the direction of defence; but in the present year, owing to the deep depression of trade, they had been compelled to ask their workmen to accept a reduction of wages.

Solid Parquet Flooring. — We willingly mention that in several buildings illustrated or alluded to in our pages lately, A. J. Arrowsmith & Co.'s solid parquet flooring has been used successfully, the Prudential Assurance Offices, Holborn, for example, and the New Stock Exchange, Dublin. It is an excellent material, and so generally used now that it scarcely needs our commendation. The Municipal Buildings, Birmingham, the Midland Land Corporation Buildings in the same town, and H.R.H. the Duke of Connaught's House, Bagshot Park (of all of which we have given views), likewise include specimens of the flooring; and some of their carved oak chimneypieces and dados, to which this same firm are now giving particular attention.

The Superintending Architect, Metropolitan Board of Works.—At the meeting of the Board on the 15th inst., the Works and General Purposes Committee submitted a report recommending that the salary of Mr. George Vulliamy, the Superintending Architect, be increased from 1,500*l.* to 1,750*l.* per annum. Mr. Dresser-Rogers, in proposing the adoption of the report, observed that the duties of the Superintending Architect had been largely increased by recent legislation. He had been in the service of the Board for many years, and, in the opinion of the committee, the very efficient manner in which he had discharged the duties of his position, and the high esteem in which he was held by the Board, both for his talent as an architect and for his general high character, entitled him to the increase now recommended. The motion was carried unanimously.

St. Saviour's, South Hampstead.—The Church Mission-room, Sunday school, and Parish-room, was opened by the Lord Bishop of London on Saturday, the 9th inst. The new buildings consist of a mission-room, 51 ft. long by 24 ft. wide, and 24 ft. high to the plaster ceiling; class-room, and entrace lobby. The style adopted is a very plain one, the facings being of Luton and bright stock bricks; the copings and cross are of Portland stone. The builders were Messrs. Manley & Rogers, of Regent's Park; and the architects Messrs. Batterbury & Huxley, of Great James-street, Bedford-row.

The Society of Arts.—On Wednesday evening the first meeting of the present session was held. Lord Alfred Churchill, chairman of the Council, delivered an address, in the course of which he said that, acting on the letter from the Prince of Wales, addressed to the Council in January last, suggesting the co-operation of the Society with the Royal Commissioners for the Paris Exhibition, the Council had been enabled to assist 206 selected artisans to visit and study the Exhibition, representing over forty different branches of industry, and the reports of these men would be published shortly.

The "Grand Theatre," Leeds."—The new theatre in Leeds, illustrated in our last issue, was opened with considerable *éclat* on Monday night last, the play being "Much Ado about Nothing." Mr. Wilson Barrett, the manager; Sir Andrew Fairbairn, the chairman of the company; and the Mayor of Leeds addressed the audience in the course of the evening, and great praise was given to the architects for their successful work.

Mr. Sam Bough, R.S.A., who was born in Carlisle in 1822, died at Edinburgh on Tuesday. He began his artistic career as a theatrical scene-painter, became an Associate of the Royal Scottish Academy in 1857, and was advanced to the degree of Academician in 1875.

TENDERS

For new Asylum for Imbeciles, Darenth, Kent, for the Managers of the Metropolitan Asylums District. Messrs. A. & C. Harston, architects. Quantities by Mr. C. Poland:—

Naylor	£76,800	0	0
Downs & Co.	75,000	0	0
Perry & Co.	72,500	0	0
Vernon & Ewen	71,169	0	0
Lovatt	69,956	0	0
Stephenson	69,700	0	0
Cox	69,565	0	0
Crockett	69,000	0	0
Wagner	68,000	0	0
Baker & Co.	67,283	0	0
Wheeler & Co.	67,032	0	0
Priddle	61,484	0	0
Braid & Co. (accepted)	60,000	0	0

For iron railings, bells, &c., at the School for Imbecile Children, Darenth, Kent, for the Managers of the Metropolitan Asylums District. Messrs. A. & C. Harston, architects:—

Iron Railings, &c.

Johnson, Bros. & Co. (accepted)	£760	0	0

Electric Bells.

Sax (accepted)	234	0	0

For the erection of a house and shop at No. 331, Euston-road, for Mr. C. J. Cotterell. Mr. James Robert Furniss, architect:—

Smerdon	£1,467	0	0
Bishop	1,231	0	0
White	1,055	0	0
Howe	1,050	0	0
Gould & Brand	1,040	0	0
Anley (accepted)	1,020	0	0

For alterations to the Ship Tavern, Anthony-street, Commercial-road, for Mr. Drake. Mr. Charles A. Legg, architect:—

Judd	£168	0	0
T. & W. Harper	168	0	0
Lusk	159	0	0
Moyle & Son	155	0	0
Sampson & Parrish	154	0	0

For thirteen quarters for married soldiers, opposite Stoughton Barracks, near Guildford. Mr. Henry Peak, architect. Quantities not supplied:—

Pink	£2,154 0 0
Pearce & Clark	2,120 0 0
Garnett	2,053 0 0
Wood	1,877 0 0
Martin, Wells, & Co.	1,754 18 0
Swayne	1,462 10 0

For an addition to coach factory, Spital-street, Guildford, for Messrs. May & Jacobs (exclusive of ironwork). Mr. Henry Peak, architect. Quantities supplied:—

W. Swayne	£1,080 11 3
Mason	1,048 0 0
Mitchell, Brothers	1,038 8 3
Strudwicke	1,026 0 0
Nye	1,004 0 0
T. Swayne	995 10 0
Colls & Sons	887 0 0
Goddard & Sons	866 0 0
Smith & Sons	862 10 0
Garnett	840 7 0
Pearce & Clark	820 0 0
Moon (accepted)	819 16 9

For building two houses at Barking Railway Station, for Mr. Coates. Mr. J. E. Dawson, architect. Quantities not supplied:—

Blandford & Co.	£848 0 0
Barnes	740 0 0
Howe (accepted)	698 10 0

For alterations and fittings at the "Cow and Calf," Eastcheap, for Mr. Charles Pearce:—

Andrews	£340 0 0
Axford	298 0 0
Gritten (accepted)	290 0 0

For repairs, painting, and replastering the front of the Belle Vue Hotel, Folkestone, for Messrs. Langton & Co. Mr. Burgess J. Reeve, architect:—

Prebble	£143 0 0
Slade	85 0 0
Hood	80 0 0
Petts & Son (accepted)	79 0 0

For the erection of a house on the Canterbury-road, Folkestone, for Mr. J. Sharp. Mr. Burgess J. Reeve, architect. Quantities supplied:—

Jenner	£510 0 0
Slade	460 0 0
Reason (accepted)	420 0 0
Payne (withdrawn)	320 0 0

For alterations, repairs, and decorations at Farleigh House, Sandgate, for Mr. J. R. Daniel Tyssen. Mr. Burgess J. Reeve, architect:—

Hood	£1,560 0 0
Webster	1,499 0 0
Holden (accepted)	1,205 10 0

For rebuilding the Coburg Warehouse, at Lower Pickle Herring Wharf, Southwark, for Messrs. Hicks, Nash, & Co. Mr. S. Brookes, architect. Quantities supplied by Messrs. R. L. Curtis & Sons:—

Hobbs	£2,730 13 2
Mason & Bristy	2,669 0 0
Perry & Co.	2,649 0 0
Stevens	2,416 0 0
Parsons	2,395 0 0
Jarrett	2,354 0 0
Morter	2,345 0 0
Greenwood	2,330 0 0
Cowland Bros.	2,330 0 0
Legg	2,318 0 0
Taylor (accepted)	2,165 0 0

For erecting the Waddon Station Hotel, near Croydon, for Mr. S. N. Rowland. Mr. S. Brookes, architect:—

Mutch	£2,446 0 0
Dotterill	2,335 10 0
Coles	2,179 0 0
Mason & Bristy	1,925 0 0

For alterations to No. 34, High-street, Croydon, for Messrs. Redgrove & Finlay. Mr. S. Brookes, architect:—

Hyde	£235 0 0
Cox	198 10 0
Loe	190 0 0
Taylor	181 10 0

For dwelling-house, office, &c., at No. 13, Spicer-street, Spitalfields, for Messrs. Field. Mr. R. Decker, architect:—

Bangs & Co.	£1,310 0 0
Reed	1,251 10 0
Gregory	1,125 0 0
Thompson	1,098 0 0
Forrest	1,083 0 0
Loveday	1,025 0 0

For alterations and repairs at No. 19, High-street, Islington:—

Nind	£615 0 0
Batchelder	497 0 0
Higgs	385 17 0

For alterations to the house "Coppins," and erection of entrance-lodge at Iver, near Uxbridge, for Mr. J. E. Taylor. Messrs. Tarring & Wilkinson, architects:—

	House.	Lodge.
Langridge & Sons	£8,138	807
Kearley	6,800	718
Adamson & Sons	6,767	738
Fassnidge & Son	6,275	625

For additions, &c., to West Dene, Hollington Park, Hastings. Mr. W. L. Vernon, architect:—

Eldridge	£785 0 0
Shortell	777 10 0
Vidler	756 0 0
Hughes	707 0 0
Parks	670 0 0

For the erection of five houses and shops, boundary-walls, &c., at Herbert-road, Plumstead, for Mr. Robert Webb. Mr. E. Taylor, architect:—

Cattell	£4,175 0 0
Lonergan & Sons	3,900 0 0
Johnson	3,895 0 0
Niblett	3,873 0 0
Jones & Co.	3,607 0 0
Hobern	3,600 0 0
Shapley	3,589 0 0
Taylor & Co.	3,587 0 0
Prout (too late)	3,575 0 0
Warr	3,354 0 0
Parker & Evans	3,250 0 0
Smith	2,820 0 0

For Board schools, Daybrook, Notts. Mr. Robert C. Clarke, architect:—

Slight	£1,827 0 0
Young	1,700 0 0
Stevenson	1,684 0 0
Tutin	1,660 0 0
Donnelly & Coxon	1,638 0 0
McMullock	1,620 0 0
Vickers	1,595 0 0
Wheatley & Maule	1,581 0 0
Wayte	1,580 0 0
F. & A. Slim	1,575 0 0
Hodson & Facon	1,571 0 0
Whate	1,566 0 0
Clarke	1,546 0 0
Roberts & Perkins	1,540 0 0
Smith & Greaves (accepted)	1,505 0 0
Doughty	1,500 0 0
Key	1,498 0 0
Wilson	1,476 0 0
J. & L. Green	1,418 0 0

For the erection of bank premises and chambers, Victoria-street, Westminster, for Mr. G. C. T. Bartley. Messrs. Charles Henman & William Harrison, architects. Quantities by Mr. Charles Fitzroy Doll:—

Aitchison & Walker (accepted)	£7,636 0 0

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